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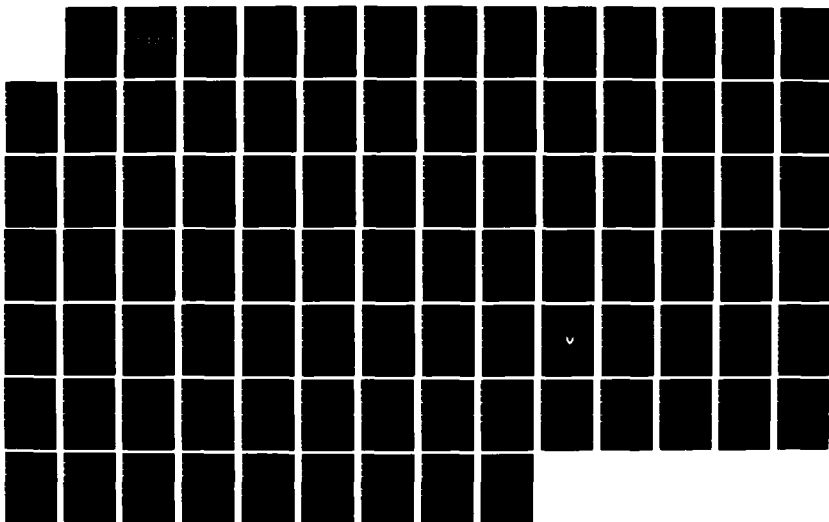
PROCUREMENT: THE SOURCE SELECTION PROCESS VOLUME 3(U)
ARMY MATERIEL COMMAND ALEXANDRIA VA 18 MAR 87
ANCP-715-3-VOL-3

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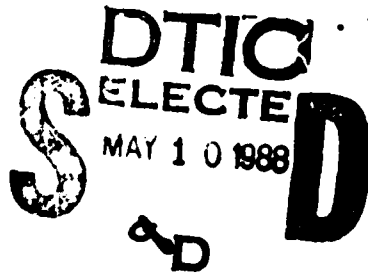


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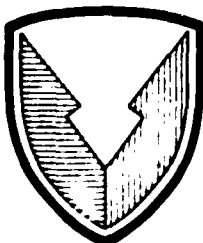


PROCUREMENT

THE SOURCE SELECTION PROCESS

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U. S. Army Materiel Command

*AMC-P 715-3
VOL. III

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MATERIEL COMMAND
5001 EISENHOWER AVENUE, ALEXANDRIA, VA 22333-0001

AMC PAMPHLET
No. 715-3

18 March 1987

Procurement

THE SOURCE SELECTION PROCESS

This volume of the pamphlet is a compendium of lessons learned reports on significant formal source selections conducted by the U.S. Army Materiel Command. It will be periodically updated by adding selected after action reports from future Source Selection Evaluation Boards. The initial printing of this volume includes the lessons learned from the programs listed below. Future updates of this volume will include a comprehensive list of after action reports that have been selected for publication in this pamphlet.

T-800 Engine acquisition for the LHX Helicopter Program

Multiple Subscriber Equipment (MSE) Program

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*This pamphlet supercedes DARCOM-P 715-3, Proposal Evaluation and Source Selection, October 1980.

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INTRODUCTION

This after-action report summarizes events and processes involved in performing the evaluation of proposals for the T800-XX-800 Engine. The acquisition strategy established earlier during development of the Request for Proposal (RFP DAAJ09-84-R-A955) was implemented as described in the approved evaluation plan. It is intended that this document provide highlights of the evaluation activity, describe the impact of the Army's new way of doing business, and recommend improvements that can be applied to future procurements. The emphasis is on the source selection process, not on the recommended winners, their scores, or their standings.

Although the T800 is considered to be a generic power plant, its first application will be on the Army's new family of light helicopters (LHX). Discussions of LHX engine requirements are provided in the previous RFP, its after-action report, and other LHX project documents and will not be repeated here. However, the acquisition strategy and overall approach are a fallout of LHX planning, and this document reflects the results of early-on decisions coordinated and approved at the Army's highest leadership levels, and can serve as the last step in the audit trail.

The evaluation resulted in two contract awards and combined many new initiatives (listed below) into a precedent-setting procurement.

- o Short, concise Request for Proposal.
- o Requirements defined without dictating to offerors how to design, plan, or accomplish tasks.
- o Firm fixed price contract for development.
- o Contract commitments and guaranteed prices that carry over into production, operation and support.
- o Commitments to develop alternate sources and competition throughout production of the end item and parts.
- o Commitments to establish strong vendor program for small businesses.
- o Definitions of contractor liabilities for not meeting commitments to guarantees or for not meeting system specification.
- o Commitments to plans for Reliability and Maintainability and Integrated Logistics Support (RAM/ILS) with guarantees to redesign, retest, requalify, and retrofit without increase in cost until successful completion of FSD.
- o Commitment for contractor to facilitate at no direct cost to the government. It must be noted that each of the above commitments, initiatives and changes is in place now (up front) with long-term guarantees

well beyond development and that the competitive environment has been established well in advance of qualification and production. In a reversal of typical past practices of stating goals and negotiating prices later, details of commitments now are written into the contracts. Figure 1 provides an overview of the initiatives to serve as a ready reference in reading this after-action report. Figure 2, also provided for reference purposes, is an overview of the strategy applied to promote competition throughout the life cycle. It is significant to note that two engine manufacturers make up each developer's team. One team consists of AVCO-Lycoming and Pratt and Whitney, and the other consists of Garrett Turbine Engine Company and Allison Gas Turbine Division of General Motors. Each team will compete its design against the other during early development (over about a 3-year period) up to a Preliminary Flight Rating (PFR). At that time, when many of the critical requirements and strengths will have been demonstrated, the government will down-select to one team based on contract performance, other notable successes, and progress toward commitments. The surviving team then will complete the development and early production of the same engine design. These remaining two manufacturers then will split and compete with each other for full-rate production and necessary support, using guaranteed prices (already negotiated) as the ceilings. An important aspect of the production initiatives is that each will bid its price to the government independent of the former team relationship.

SUMMARY

During 1984, the Army initiated planning and developed acquisition strategy for procurement of the T800-XX-800 Engine. A major thrust was to establish a new way for the Army to conduct business with the industry. In the process, many firsts were defined, along with many changes to previous practices. This document covers the entire process - from development of the Request for Proposal (RFP) to the completion of tasks performed by the Source Selection Evaluation Board (SSEB). To assist the reader, this report is divided into sections that represent steps along the audit trail, including preparations for convening and operating the SSEB, the evaluation itself, and the concluding reports. Throughout the effort, running logs were kept by the participants so that information could be collected and consolidated to produce this after-action report.

The innovations, new initiatives, and acquisition strategy, together, represent a considerable departure from past practices. The primary subjects addressed during preparation of the RFP were cost, production competition, and product performance. In turn, the focus of the acquisition strategy became competitive development and competitive follow-on production. With these overall concepts in hand, it then became the task of this SSEB to execute plans for selecting two competing teams to develop the T800 to a point where the design that offered the best value to the government could be selected (about 3 years from the date of this report) for continuation into qualification and production phases.

The approach was implemented via the RFP, and the two contractor teams (AVCO/Pratt & Whitney and Garrett/Allison) selected after the evaluation will compete development of their engine designs on a firm fixed price basis with up-front commitments to guaranteed production prices and operational costs. These commitments also involve demonstration of performance requirements and development of at least two competitive sources for replacement parts, as well as dual sources for the end item in production. The team that best demonstrates success against established requirements will be chosen to complete the remainder of the program. After qualification of the engine, the two major manufacturers on the winning team also will compete with each other during production to provide the same design at the best value, including operating and support guarantees. To obtain the long-term benefits, these departures from past practices required that the contractors guarantee their cost and performance now, rather than cite future goals and negotiate later. A summary of the new initiatives is as follows.

COST

- o Development - Firm fixed price contract, including provisions for necessary corrective redesign, retest, requalification, and retrofit, at no additional cost.

- o Production - Guaranteed ceiling prices for engines with government flexibility to vary lot quantities.

- o Operational Support - Guaranteed government operating cost with contractor liabilities should these costs be exceeded.

COMPETITION

- o Contract provisions for each team member to become a viable competitor in production.
- o Contract provisions to expand vendor base and maximize use of socioeconomic sources for parts.
- o Contract provisions to establish and maintain at least two sources for replenishment parts.

PRODUCT PERFORMANCE

- o Guaranteed product reliability and performance with specific requirements to be demonstrated at contractor's risk prior to production.
- o Demonstration of Reliability and Maintainability (RAM) requirements and logistics support prior to full production.
- o Contractor liabilities for not meeting requirements.

With the award of these competitive contracts, the initiatives implemented shift risk to the contractor for control of costs and for successful performance. These new initiatives are an innovative change to past acquisition strategy. For the first time, industry has solidly committed to guaranteed production and support costs at the outset of development, and it is hoped that the T800 contracts can serve as a model for future procurements. Taken together, the initiatives now describe the Army's new way of doing business. In the early stages of preparing the RFP, they translated into what became known as a performance-oriented Request for Proposal.

The evaluation process concentrated on five major areas - Management, Production Competition, Technical, Reliability and Maintainability/Integrated Logistics Support, and Cost. Many of the lessons learned in the process were common to all areas; therefore, specific items of interest may be found more than one place in this document. Some of the more significant topics are as follows.

- o The RFP was thoroughly coordinated with potential offerors and government agencies from the start. There were no surprises in defining the new way of doing business; however, it was essential that release of the RFP be preceded by pre-proposal conferences to ensure that the industry was provided every opportunity to capture the spirit and intent of the government's requirements and objectives.

- o The performance-oriented RFP, although new and considerably shortened from previous practices, was embraced by the offerors as a welcomed change and an opportunity to produce against well-defined requirements for the end product.

- o Preparations for evaluating future proposals will require a new look to ensure that members of the SSEB are well schooled beforehand. Consideration should be given to convening the board earlier - the evaluation team met all schedules; however, the requirement to learn the new way of doing business should have begun the week before proposals were received.

- o The system involving inquiries (Errors, Omissions, and Clarifications) on the offerors' proposals was extremely important to the understanding of their submissions, but the process should have been shortened to less than 3-weeks. Better progress was made later during face-to-face discussions with the offerors.

- o Frequent meetings with members of the Source Selection Advisory Council (SSAC) were a significant help to the SSEB. Separate sessions of this type are highly recommended as a means of reaching common understanding of differences in the various proposals and uncovering issues that will need special attention when comparing details against the RFP.

- o Formal SSAC meetings during the evaluation were essential. This SSEB was involved in four such meetings, roughly a month apart. The timing was appropriate, and each meeting forced the Board to address open issues without delay, requiring a dedicated level of self-discipline to reach specified targets on extremely tight (but workable) schedules. It is recommended that a similar approach be used in the future on the basis that it will maximize overall effectiveness and avoid slippage.

- o Model contracts prepared by both parties and plans generated by the offeror in parallel with discussions and negotiations provided an excellent baseline for the Best and Final Offer (BAFO). Because of tight schedules, this Board could not provide the offerors with more than seven days to respond after being officially notified on the due date for BAFO. It is recommended that the response time be expanded to two weeks and that model contracts be provided to the offerors with the notification to submit the BAFO.

This SSEB tailored its structure toward the new initiatives, and it became clear early-on that special skills needed to evaluate the new initiatives in RAM/ILS were not readily available. As shown in Figure 3, RAM/ILS was elevated in importance and became a major area for evaluation for the first time in this RFP. Special needs for dealing with RAM/ILS and its elements (including MANPRINT) are detailed in Section IV.

As required with all SSEB activities, this Board documented its findings at the conclusion of the evaluation. The final report is in four volumes which have been stored and secured by the Contracting Officer. Volume I contains the comparative analysis of proposals and the SSEB's official documents. Volumes II, III, and IV contain the Board's separate analysis of each proposal (one for each offeror's proposal). Together, they represent the Board's findings by detailed reference to subfactors, factors, elements, and areas of the evaluation structure. Narratives are provided and scores are rolled from the lowest level through the highest in each area.

The number of key personnel assigned to form the core of the evaluation team was about 65, including the Chairman, Deputy, Area and Element Chiefs, Contracting/Legal, and administrative/clerical staffs. This total is believed to be far lower than for previous SSEBs; however, it must be noted that about 85 short-time and part-time specialists also assisted on an as-needed basis (usually 2 weeks or less). This assistance was provided by other Army organizations and NASA, as well as elements of AVSCOM.

The overall teamwork and rapport developed throughout the process was excellent. Each participant learned his/her duties quickly, and the leadership of this SSEB wishes to acknowledge the success-oriented spirit with which the team responded in a difficult, new approach to acquisition.

SECTION I

SSEB PREPARATIONS

This section of the report addresses preliminaries required to conduct activities of the Source Selection Evaluation Board (SSEB). There were many lessons learned, some of which could have improved efficiency of the Board during the evaluation. Because the Request for Proposal was the first of its kind, it was necessary to adopt new disciplines for dealing with the Army's new way of doing business. These disciplines demanded that some key evaluators be trained to handle the changes from past practices, and most of this training could not be accomplished until proposals were received.

Flexibility and rapid understanding were essential ingredients for both the evaluator and the offeror. Some Board Operating Procedures (BOPs) from previous SSEBs served as a baseline, but changes needed to be considered, particularly as related to the Errors, Omissions, and Clarifications (EOCs) process. The mechanics of the evaluation itself also uncovered needed improvements. The start-up would have been smoother if samples of evaluation sheets had been developed and made available for the evaluators beforehand. In addition, the on-site briefing to familiarize the members of the SSEB with the task ahead cannot be overlooked. It was regarded as an extremely important orientation session to expose evaluators to changes from tradition that they could be expected to face in assessing offerors' proposals. Each of these topics is broken out and will be addressed in more depth in the discussions that follow.

A. REQUEST FOR PROPOSAL

The Request for Proposal was structured to reflect the government's interest in a performance-oriented product. Therefore, the RFP stated requirements and defined boundaries without detailing methods by which to achieve the result. In essence, the typical "how-to-do-it" in previous RFPs was eliminated, and it was left to the offeror to determine how best to meet requirements. As such, the RFP was much shorter, and the primary section for describing the product was the System Specification; it also was considerably reduced in size from previous practices. The RFP, with this specification, gave the offeror flexibility and an opportunity to trade-off parameters so as to encourage optimization. It also called for definitive plans to accomplish the tasks. Therefore, each offeror's proposal detailed his overall program commitments and guarantees, citing liabilities that he was willing to accept for not meeting contractual requirements. That understanding between the government and the potential contractors was well articulated and coordinated in draft RFPs and preliminary meetings. Without these reviews, it would have been far more difficult to instill the concepts of the new way of doing business into the industry. It cannot be overemphasized that these pre-RFP steps were essential and that future similar procurements, likewise, must prepare the offerors in advance. As with this procurement, the RFP itself should clearly show industry the weighting of various areas of their proposal (Figure 3). There will be no better way to communicate the government's

intentions or the importance of each subject to be addressed by the evaluators. Other RFP-related lessons uncovered during the evaluation process are discussed below.

1. **CONTRACTUAL PLANS** - The attempt to eliminate the "how-to-do-it" from the RFP went far toward simplifying the government's requirements. In the future, it would best serve the interests of the government and the offeror to state whether the submitted plans are to become a part of the contract or are to be submitted for evaluation purposes only. Included in this category are the numerous test/development plans, competition plans, and RAM/ILS plans.

2. **OFFEROR'S MANAGEMENT** - During the evaluation process, it became clear that the Management Area of the evaluation would have been better handled under the other four Areas (see Figure 3) - **Production Competition, Technical, RAM/ILS, and Cost**. Because of the desire to place more control of the development program into the contractor's hands than in the past, the basic understanding of management aspects became closely associated with the program plans that were proposed under the four main areas noted here. In addition, the initiatives encouraged by the new way of doing business led government evaluators assigned to the Management Area to overlap the others, and special care was exercised to prevent evaluating the same topic in two or more places. This SSEB is certain that no such conflicts in the evaluation plan occurred; however, the team remained alert to that potential. Concerns were resolved by sharing findings and completing the evaluation in the most appropriate area. Future RFPs, therefore, should include management elements or factors in other areas where they more properly apply (not as a separate area), but even under such a breakout, caution must be applied to ensure that cross-overs do not lead to evaluating a specific management topic in more than one place.

3. **CONTRACT DATA REQUIREMENTS LISTS** - In keeping with the desire to eliminate complexity in the RFP and in performance of a follow-on contract, Contract Data Requirements List (CDRLs) were reviewed to establish whether they truly represented government needs. Of the 123 reviewed, 65 were discarded. This measure to streamline the RFP and define the real requirements, at first, was met with resistance; however, the result was a reduced burden on the government and the offeror, alike. As became evident through the later evaluation, caution must be exercised to avoid eliminating the government's tools for measuring contractor performance. This concern involves CDRLs on parts lists, manuals, and test plans, which initially were dropped, but later added in modified form.

4. **OVERALL SCHEDULE** - The entire process from preparation of the RFP to completion of the SSEB reports can take a year or more, depending on the complexity of the acquisition strategy employed. For this SSEB, the RFP was started in June 1984 and released to industry formally on 5 December 1984. The activity was closed out on 30 August 1985, with completion of all documentation requirements. The elapsed time, 14 months, proved to be adequate, but it required some unusual steps, such as parallel fact-finding discussions and negotiations with three offerors.

all meeting in different buildings on the same days. This overlapping should be avoided if at all possible. For the T800, the situation resulted from a learning process involving a need to conduct lengthy and detailed discussions on contractual plans, guarantees, and numerous commitments that reflected the Army's new way of doing business. This learning, although difficult and tedious for the offerors, as well as the evaluation team, was essential to the selection of winners. Details of this Board's schedule are provided in Figure 4. A suggested schedule for planning similar future SSEB activities is provided in Figure 5. Both schedules will be discussed in more detail in Section II of this report.

B. SSEB STAFFING

In staffing an SSEB, it is believed essential that the Area Chiefs, Contracting Officer, Administrative Officer, and key Element Chiefs be assigned early enough to play a significant role in writing the RFP. They should be in place on a full-time basis with adequate office space to operate as a team. Likewise, the Chairman and/or the Deputy Chairman should devote full energies to the preparation of the RFP well in advance of its formal release to industry. It is suggested that, as a minimum, the team leaders (Chairman, Deputy, and Chiefs) be named six months prior to the scheduled issue date of the RFP and that the Chairman and/or Deputy be prepared for full-time service 2 months before issue. By so doing, the same individuals preparing the RFP will be available to develop the Source Selection Evaluation Plan, identify needs for Board Operating Procedures, and define staffing requirements for the entire SSEB. The carry over from one to the other, clearly, will enhance the board's effectiveness, especially in the early days of the formal evaluation of proposals. Relative to the Army's new way of doing business, the importance of early involvement is further emphasized, and key participants must be well versed in all details of the acquisition strategy, new initiatives, and long-range objectives.

The task of identifying specific skills needed for the evaluation and the selection of the remainder of the board must begin immediately after release of the RFP. Each key participant in writing the RFP and the Evaluation Plan should play a role based on intimate knowledge of the requirements. These needs must be spelled out in sufficient detail to permit an efficient search for the needed skills. Without question, the tendency will be to name specific individuals; however, such requests should be avoided unless they are provided in the context of requesting a desired level of skill and talent. Working with the administrative staff, the Chairman or Deputy must develop a potential roster by seeking the assignments formally through appropriate channels, and these commitments to the SSEB will be extremely difficult to secure. The task will become the most time-consuming effort and will involve assignments to Contracting, Legal and Administration, along with the evaluation areas. It will fall upon the Chairman or Deputy to follow-up persistently with inquiries, some of which will involve requests for assistance from the other services. This process may well involve high-level exposure to emphasize the framework, acquisition strategy, and importance placed on the procurement at hand. Every effort must be made to establish the roster clearly at

least 30 days before proposals are received, and assignment letters should follow immediately thereafter.

To minimize difficulties in assignment of evaluators, action should be taken to develop and implement AVSCOM and/or AMC policy at the director/office chief level to provide the appropriate personnel. Considering the importance of such acquisitions, needed personnel should be provided willingly. Among the critical skills most sought, participants must demonstrate good oral and written communication, as well as analytical strengths. In some areas such as RAM/ILS, consideration should be given to training and development of individual skills in such programs as LOGAMP.

In addition to these assignments, it was extremely valuable to this SSEB that a highly qualified individual be available on a full-time basis to interface with all areas and functional units of the Board. His purpose was to coordinate all details of formal presentations to the SSAC and SSA, while also acting as the focal point for orchestrating numerous other tasks conducted jointly among the Board leadership. This assessment was significant in permitting the Board to stay on track and proved indispensable in maintaining uniformity of all data presented.

The tracking of EOCs, compilation of negotiation issues, and the taking and preparation of required meeting minutes were time consuming and burdensome for both element and factor chiefs. Future SSEBs should staff each area (or even element) with dedicated people to handle these requirements. Junior personnel (interns and trainees) would be good candidates for these positions, and the experience gained would be invaluable in developing a cadre of experienced people for future boards.

As a part of this staffing requirement, it should be noted that specialized equipment (computers, word processors) needed by the board must be available early and that training for their use must begin as soon as practicable to permit smooth transition into the board activity.

C. BOARD OPERATING PROCEDURES

Board Operating Procedures (BOPs) are an established requirement to provide guidance to personnel assigned to each Source Selection Evaluation Board (SSEB). In the list that follows it may be seen that the operation of this Board involved 17 such BOPs, most of which are widely accepted for use on other similar activities. For future boards, it may be advantageous to consider making some of these BOPs available to the offerors in that they may prove helpful to understanding administrative details. Those that are suggested for this purpose are BOP numbers 2, 4, 12, and 13.

1. **Personnel In-processing Procedure** - Provide guidance for processing of incoming personnel for admittance to the SSEB Area.
2. **Security Procedures** - Define requirements for control of classified or sensitive information provided to or emanating from the SSEB.

3. **Standards of Conduct** - Provide guidance for personal and professional conduct relative to SSEB matters.

4. **Parking** - Provide guidance for the parking of privately owned conveyance of personnel assigned to and/or on official business with the SSEB.

5. **Use of Telephones** - Provide guidance for telephone usage and procedures, including restrictions.

6. **Hours of Duty** - Define normal duty hours and procedures for overtime.

7. **Time and Attendance Reporting** - Establish uniform method of recording normal hours worked, overtime worked, sick and annual leave taken.

8. **Claim for Reimbursement for Expenditures on Official Business** - Define procedures for processing Claim for Reimbursement for Expenditures on Official Business and Nonavailability of Official Transportation for Local Travel, Privately-owned Vehicle Authorization.

9. **Control of Reproduction** - Define responsibilities for control of reproduction of documents.

10. **Typing Pool Procedures** - Establish a uniform method for processing and controlling typed material emanating from the source selection evaluation.

11. **Offerors' Requests for RFP Clarification** - Establish a uniform method of responding to offerors' questions to the government.

12. **EOC Reporting** - Establish a uniform method of reporting errors or omissions discovered in the offerors' proposals and for requesting clarification when such information is essential for conducting the evaluation.

13. **Amendments to Request for Proposal** - Establish a uniform method to amend the RFP, subsequent to original proposal submittal date.

14. **"Eyes Only"/Back Channel Messages** - Provide necessary guidance and delineate responsibilities and procedures to ensure efficient processing of "Eyes Only"/Back Channel Messages for the Chairman, SSEB.

15. **Lessons Learned Reports** - Establish control for preparation of lessons learned reports.

16. **Individual Performance Rating Scheme** - Was not published for this SSEB, but should have been provided with samples of performance standards, performance appraisals and guidance as to the rating scheme of both military and civilian personnel assigned for a period 90 and 120 days, respectively. Without it, supervisors used methods established by their parent organizations.

17. Departure Clearance Procedures - Provide guidance for processing personnel departing the SSEB.

The following is a list of Board Operating Procedures that would have been helpful had they been established prior to the beginning of the SSEB.

1. Procedures for submitting partial pay vouchers for personnel assigned to the SSEB who are TDY.
2. Procedures for typing TDY orders for assigned personnel required travel in support of the SSEB.
3. Typing guide for all clerical personnel, to include signature blocks for Chairman, Deputy, and Area Chiefs.
4. Instructions for the preparation of the final report (for the typist and the evaluators).

D. EVALUATION PLAN

The Source Selection Evaluation Plan addresses responsibility for source selection as related to the Source Selection Authority (SSA) and the Source Selection Advisory Council (SSAC), in conjunction with the Source Selection Evaluation Board (SSEB). Preparation was in accordance with guidance set forth in Army Regulation 715-6, September 1970, "Proposal Evaluation and Source Selection"; USAMC Supplement 1 to AR 715-6, 3 November 1970; DARCOM Pamphlet 715-3, October 1980; and Subpart 15.6 (Source Selection) of the Federal Acquisition Regulation (FAR). The Evaluation Plan reflects the T800 engine program requirements, defines principal responsibilities, describes the evaluation process, and provides a description of the administrative aspects related to the operation of the SSEB. While the purpose of the Evaluation Plan is to assure impartial, equitable, and comprehensive evaluation of competitive proposals, it must lead to selection of a contractor whose proposed program will provide the optimum approach and best value to the government. Therefore, it must describe detailed plans and procedures for the SSEB, establish the structure of an administrative system for evaluating and scoring proposals, and document the baseline for recording and supporting the SSEB.

The Evaluation Plan and the Request for Proposal (RFP) must be closely linked documents. For the T800, the Evaluation Plan was prepared in parallel with the RFP. Evaluation criteria, as reflected in the Plan, were based on requirements shown in Section C and the System Specification of the RFP, and the evaluation approach was mirrored in Section M of the RFP, Evaluation Factors for Award. It was deemed imperative that the offerors be provided insights to be used by the SSEB in evaluating proposals and that precise language be used to communicate the importance of each of the evaluation areas. One of the innovations of this RFP was that the distribution of weights assigned to areas of evaluation (down to the factor level) was provided in detail (Figure 3) so that the relative importance of these topics could be understood easily.

Preparation of the Evaluation Plan was iterative in nature. As RFP requirements changed, so did the Plan and its attendant evaluation criteria. These changes were a result of preliminary reviews (prior to formal release), wherein drafts of the RFP were provided to industry and to other government agencies for review and comment. Throughout, the objective was to delete "how-to's" in an attempt to make the RFP as performance oriented as possible. Each step, including formal briefings, was iterated with the SSAC and resulted in refinements of the previously-mentioned weighting, scoring, and definitions.

A large portion of the Evaluation Plan was devoted to Production Competition, RAM/ILS and Cost. All three represented firsts - Production Competition became a separate area with required commitments up front in the program; RAM/ILS became a separate area, weighted and scored; and Cost became a weighted and scored area. To reflect the results of these thoroughly reviewed changes in practice, final iterations in an eleventh-hour effort were required to provide detailed criteria (Appendix II to the Evaluation Plan). In essence, these criteria were the instructions to the evaluators.

It follows from the above that the iterative process (including requirements and guidance) must be concluded early and that the importance of developing and coordinating detailed evaluation criteria cannot be overstated. Criteria must be written clearly, and there must be no ambiguity. Therefore, it is essential that the authors of the RFP be available to translate the iterations into understandable criteria for the Evaluation Plan.

E. ON-SITE BRIEFING

For most of the evaluators and administrative personnel assigned to the SSEB, the on-site briefing was their first exposure to the task at hand. It also was the first opportunity for many to develop the essential team relationship. For those reasons, the on-site briefing for the T800 SSEB was held before proposals were received. For any board, it should be a requirement to cover background and preparation of the RFP, the Evaluation Plan, and rules of conduct. The T800 briefing took place one day in advance, and special efforts were made to describe the new way of doing business. Emphasis was placed on the initiatives of the RFP and the steps taken to encourage offerors to present innovations. Although this orientation served the purpose well, it is clear that the team needed two more days of exchange with the leadership of the SSEB to capture the approach before beginning the evaluation. An outline of the presentation used for the T800 on-site briefing is as follows.

- o Purpose
- o Responsibilities
- o Engine Requirements

- o SSEB Structure
- o Highlights of Evaluation Areas
- o Conduct of SSEB, including Security
- o Reference Documents
- o Definitions used in Scoring
- o Evaluation Process
- o Schedule

SECTION II

EVALUATION OF PROPOSALS

The process of evaluating proposals involves a number of routines for which guidance is provided in Army Regulation No. 715-6, Federal Acquisition Regulation 15.6, and DARCOM Pamphlet No. 715-3.* With these guidelines and the plans described in Section I of this after-action report, the SSEB was prepared to address proposals. It is emphasized that the highest standards of uniformity must be exercised by any board, and it is essential that there be precise adherence to this standard by all participants in all data developed. Each step identified in the paragraphs of this section (below) required detailed visibility and control at the area level; however, it must be the responsibility of the Chairman/Deputy to establish the methodology that will meet the standard of uniformity and integrity.

A. INITIAL REVIEW

Evaluators and chiefs, alike, should be permitted sufficient time to review proposal data and become familiar with an offeror's approach to meeting the RFP requirements. An overview briefing by the offeror is a most welcome introduction to acquaint the board with highlights and features of each proposal. Depending on the number of proposals received, it will be most appropriate to complete these sessions in one day with each offeror given about an hour to discuss his response to the RFP. In addition, these presentations should take place within a day or two after proposals are received, and they should be directed at the content of the proposal volumes and business arrangements. For the T800 Board, the presentations included about an hour and a half of discussion and video tape. Although these tapes were useful, the offerors could have presented the same information more comfortably and less formally with vu-graph slides and with a reduced burden during a time when critical proposal delivery schedules had highest priority. It is the Board's opinion that the offeror would have preferred to concentrate on final proposal details and follow-up with a short, executive summary video tape, perhaps a week after due date for the proposal. Despite this belief, each offeror met the schedule and provided excellent initial reviews. Each of them also believed that the tapes served their own needs well, in addition to meeting the government's desires for a concise summary.

For the first week to ten days of the initial review, the SSEB should concentrate on understanding each proposal, so as to permit development of the basis for inquiries in the EOC process (requests for information on Errors, Omissions, and Clarifications). It is recommended that evaluation

* It is suggested that each of these documents be made available to offerors when an RFP is released. The insights gained from these references will prove helpful to the offeror by enhancing understanding of the government's proposal evaluation process.

of proposal details not begin until this baseline has been set and all area chiefs have had ample time to coordinate their approaches and communicate their concerns. As in the past, many questions will arise, and a large share of them can be resolved early-on with internal communication and without requiring an EOC. The board members must work together to avoid duplication and turmoil for there can be no substitute for thoroughly reading the proposals and insisting on detailed coordination.

In establishing a starting point for the evaluation, each area chief should define a due date for an initial finding at the lowest level in the evaluation structure. These findings, although preliminary, will surface the concerns within that area and will lend substance to the EOCs. During these first weeks, daily staff meetings with the SSEB leadership are recommended as the means to communicate details of planned EOCs and to foster interfaces among evaluators in all areas. Because the benefits gained by sharing information between areas on designated subjects is vital, the process must involve at least the area chiefs, and it must not be left to take place without guidance. Further discussion of the EOC process is provided in paragraph B, which follows.

B. ERRORS, OMISSIONS, AND CLARIFICATIONS

A detailed discussion of this process can be found in DARCOM-P 715-3. In brief it states, "In reviewing a contractor's proposal prior to scoring it, evaluators of the SSEB may encounter errors, omissions, and deficiencies in varying degrees of substance. Some are superficial and easily correctable while others are more serious." For the T800 SSEB, a formal Error, Omission, and Clarification (EOC) inquiry was used to gather enough initial data to establish a baseline for the original proposal.

The process was indispensable to enhancing initial understanding and establishing a baseline for follow-on efforts. However, it was clear that this tool could easily be used to collect data that was either superfluous or could be better handled during the follow-on, face-to-face discussions. The sole objective of the EOC process must be to permit the collection of information needed to understand the proposal. The process should be short (no more than two weeks) and cover a well-defined period with a specific start and end date. It must not be permitted to enlarge and overtake other, more valuable fact-finding responsibilities, such as direct discussions with the offerors. These face-to-face discussions; therefore, should begin as soon as possible after the initial evaluation so as to ensure that the government's positions and concerns are adequately conveyed to the offerors. Based on the innovations sought in the RFP, the discussions, although sometimes repetitive, were indispensable to the success of the program, more so than the EOC process.

During the evaluation, offerors were quick to note that they regarded the EOC as far less significant to the process and were pleased at the opportunity to meet with the Board. Each offeror also recommended that the EOC process be kept to a minimum and that discussions and follow-on negotiations begin as soon as possible.

This program experience emphasized the requirement for a pre-evaluation EOC orientation, augmented with examples of type, coordination, staffing and tracking. In accordance with DARCOM-P 715-3, coordination between the evaluation areas should be sufficient to assure clear and precise statements of their particular requirements on a specific request. For the T800 SSEB, daily staff meetings were necessary for coordination, but, even then, some detailed concerns could not be avoided. Although the computer system used for tracking by this board was available to most Areas and was a good tool, the focal point for control and tracking of all EOC actions (assignment of board control numbers, quantities, and format assembling and inputting into the system) should be with the Contracting Officer. In addition, EOCs and responses should be filed by areas, as well as by control numbers. Each SSEB must make all administrative arrangements and assignments clearly, well in advance, to ensure that the learning process, including internal communications with all Areas, are handled effectively.

However future SSEBs are run, it should be recognized that formal, written inquiries are time consuming and not always satisfactory in their response. Face-to-face discussions are less manpower intensive and enable a great deal of information to be passed with greater assurance of understanding.

C. FACT-FINDING DISCUSSIONS

Although the EOC process proved to be very beneficial in the initial phase of the SSEB (relative to errors and omissions), it was of limited value for clarifications. Questions and answers often were difficult to communicate in writing via the EOC process, due primarily to the complex nature of the proposal submitted in response to the performance-oriented RFP. The EOC process, however, did complement the subsequent fact-finding discussions and served as a basis for identifying deficiencies and high risks. They also aided in the clarification and understanding of the government's requirements and philosophies. On the T800 SSEB, the EOC process unavoidably overlapped those discussions, and there were times when a discussion topic had already been submitted by the offeror in an EOC but not yet received by the evaluator. Therefore, if the schedule permits, it is recommended that on future SSEBs, fact-finding discussions not begin until the EOC process has been completed.

Fact-finding discussions, primarily, were conducted by area (Management, Production Competition, Technical, RAM/ILS, and Cost), which permitted the offerors and government specialists to participate on a pre-scheduled basis. Clearly, it was advantageous to both parties to have a pre-planned agenda with open questions; therefore, in most cases, topics were submitted to the offeror at least three days in advance. To focus the discussions, government contracting and legal specialists were required to participate fully and exercise controls to avoid technical leveling and transfusion or any other aspect that might unfavorably impact a fair and competitive environment. For the T800 SSEB, discussions were conducted separately with all offerors, but because of schedule constraints imposed for contract award, discussions often took place on area subjects in parallel sessions on the same day. Because of innovations sought by the government, the task of understanding details was greater than anticipated, and it became necessary to add personnel to the legal staff on a

temporary basis to cover several meetings in parallel. Concurrent discussions, obviously, present a problem in that the strong interrelationship between areas can require that key evaluators be available for more than one meeting at the same time.

Although responsibility for all exchanges with the offerors must be with the Contracting Officer, it is important that the responsibility for taking minutes of discussions and negotiations also be clearly defined. Unlike the EOC process, which provides for an audit trail in writing, minutes are the only record. They must be accurate and complete, and, to be effective, they should be provided to the offeror within 3-5 working days following the session. In that way, these minutes can provide an opportunity to reflect the agenda items, state the government's interpretation of the discussions, and identify action items and issues. To be most effective, these minutes should be prepared by the area (RAM/ILS, for example) from which the discussion topics were generated. In all cases, however, review and distribution of minutes must remain the responsibility of the Contracting Officer.

D. NEGOTIATIONS

Negotiations with the offerors are best pursued after RFP requirements and proposed responses are clearly understood by all parties. Included in this step are complex discussions on assessments of trade-offs and risk as they relate to the RFP and its System Specification. It is an opportunity for both parties to propose approaches to development of contractually binding language.

For the T800 SSEB, negotiations were conducted over a broad range of topics with emphasis on organizational issues, guarantees, liabilities, long-range commitments, and warranties in the four major areas (Production Competition, Technical, RAM/ILS, and Cost). In retrospect, it is difficult to identify where fact-finding ended and negotiations began - this Board moved from one to the other, while emphasizing requirements, in a continuous process without pause. Model contracts, which formed the framework for each offeror to build upon, were based on the earlier discussions and these negotiations, and the contents are described below.

E. MODEL CONTRACTS

Development of model contracts proved to be an extremely beneficial fallout of discussions with the offerors. The first model contract was provided to the offerors approximately one week prior to the initial negotiation sessions. These models became the working documents used by the parties during negotiations and enhanced the proceedings by focusing the discussions. In this way, the discussions became highly structured and most responsive.

As intended, these working documents were continually updated after each session and proved to be an effective audit trail in the evolution of final contracts submitted to the offerors with the request for Best and Final Offer (BAFO). Evolution of the model contract was on an alternating basis between the parties - agreements reduced to writing, development of

joint understanding, open discussion, and resubmittal at the next session. This check and balance ensured that mutual agreement was reached in the negotiated concepts and that the necessary contractually-binding language represented commitments agreeable to both parties.

Program plans were included, and it was only through this concentrated effort of continuous updating that the offerors were in a position to respond to the request for BAFO in only seven days.

F. BEST AND FINAL OFFER (BAFO)

The request for BAFO was provided by written notification through the Contracting Officer as required by FAR and contained detailed information and instructions relative to submission. Three copies of the final model contract were furnished. Included were special instructions to provide (fill in) specific competitive information, such as prices, incremental funding requirements and schedules. The offerors also were requested to submit two signed original copies, which were used during the BAFO evaluation process. Because the government had retained the right to award more than one contract (and ultimately awarded two), the offerors were instructed to place restrictive markings on their BAFO to the extent that they believed were supportable in the light of the competition that likely would continue through the down-select at PFR.

Partly related to this concern, the offerors were requested to submit a "shell" contract which deleted all information considered by them to be **COMPETITION SENSITIVE and/or PROPRIETARY**. This form of protection evolved from prior agreement (between the SSEB and the offerors) that certain contract data should not be subject to release via Freedom of Information Act (FOIA) requests. However, because the SSEB did not have authority to protect such data, contracts would be referred to higher level of review.

A final, yet very significant, point in BAFO is that because of late fiscal changes and related concerns that can affect the overall program plans, it is recommended that any future requests for BAFO clearly define a period for which the submission must remain valid.

G. FINAL EVALUATION AND SCORING

It should be noted that each step in the evaluation process involved reaching some measure of a preliminary conclusion; however, it must be emphasized that the potential contractor's Best and Final Offer supersedes all previous findings. To recount the steps to this point, the Board continued to enlarge its perspectives through:

- o initial reviews of proposals;
- o issuing inquiries (EOC);
- o holding fact-finding discussions;

- o conducting negotiations;
- o developing model contracts; and
- o studying Best and Final Offers (BAFO).

Along the way, each evaluation area had the opportunity to develop preliminary scores for evaluation purposes; however, each also was instructed that all such documentation up to BAFO was subject to change. Therefore, it was required that any narratives and scoring sheets be revisited to ensure that they properly represented each BAFO. With this requirement in mind, Area Chiefs exercised strict control over the amount of effort expended in establishing scores above the lowest levels in the evaluation structure. For example, evaluating RAM/ILS (See Figure 3) and scoring it should be restricted to the weighted factors (such as Quality Engineering and LOG/MANPRINT) without rolling them into the elements (Reliability and Maintainability or Integrated Logistics Support) until BAFO. In the case of this Board, the SSAC requested a preliminary reading on scores to be presented at SSAC-III. Even then, complete narratives at the element level or area level were not necessary. To avoid a complete rework at BAFO, it is recommended that only preliminary scores (based on the factor level) and strengths, weaknesses, green flags, red flags, and risk be documented. While all of these findings will be subject to change, they will focus the team's effort at the time of BAFO, minimize the amount of effort required to document the findings, and still provide the SSEB with all necessary detail to interface effectively with the SSAC.

In executing the steps in the process, it became clear that scoring below the factor level should be avoided. Instead, it is recommended that the factors include topics to be considered in arriving at a factor level score, without attempting to identify subfactors or sub-subfactors, which would, otherwise, force a significant and wasteful increase in documentation time and effort. At the same time, it should be noted that this suggestion will not affect the final score, so long as the necessary topics are included at the factor level.

The scoring system used in the evaluation was based on awarding a passing grade of eight on a scale of zero to ten. Therefore, an offeror's proposal stood the risk of being penalized significantly if requirements were not met. At the same time, while the approach supported requirements of the RFP, it required a truly exceptional proposal to be awarded a full ten points (two-point bonus). It must be noted that in the case of this SSEB, all proposals met requirements and all were acceptable. It is recommended that the spread of possible points above a passing grade be increased slightly, reflecting a change to a score of seven out of a possible ten. This change would allow the details of the evaluation to show a wider discrimination among good proposals.

The initiative taken to publish weighting of areas, elements, and factors in the RFP (Figure 3) initially was regarded with some caution. Without question, it provided an unmistakable means to communicate the importance of the government's new initiatives. It is highly recommended that this methodology be adopted in all future procurements.

H. MEETINGS WITH SOURCE SELECTION ADVISORY COUNCIL

This SSEB had four separate meetings with the Source Selection Advisory Council (SSAC). The schedule for these meetings is shown in Figure 4. For the T800, SSAC members were assigned responsibility by the Chairman to interface with the SSEB in their respective specialty areas. Therefore, separate, individual meetings with SSAC members were scheduled to ensure that the SSEB took maximum advantage of exchanges throughout the evaluation process. In total, about 30 separate meetings were held between SSAC and SSEB members. Each meeting proved to be an excellent forum for promoting dialogue and understanding on issues and led to a smooth flow of information preparatory to the formal SSAC meetings (SSAC-II, -III, -IV).

The four major SSAC meetings were spaced roughly a month apart. A brief description of each follows.

1. SSAC-I - 27 MARCH 1985

- Objectives:
- o Remind SSAC of RFP requirements in each area
 - o Describe proposals (area by area) received from industry
 - o Identify potential issues
 - o Describe plans for evaluating proposals
 - o Describe contracting initiatives

Comments: This meeting was the SSAC's first exposure to the proposals. It included brief, 20-minute video tapes provided by each offeror (serving as executive summaries of their proposals). Also available to the SSEB and SSAC were 90-minute video tapes (not shown at SSAC-I) which described the offerors' proposals in greater detail. Overall, the SSEB presentations and the offerors' summary tapes required about 3½ hours, and all indications were that the information passed to the SSAC met the SSEB's objectives. Use of the offerors' 20-minute video tapes to augment the written proposals was an excellent way to present an enormous amount of information in a short time. It was an SSEB recommendation to not show the longer (90-minute) tapes to the SSAC because they were not nearly so useful, and it is recommended that future SSAC-SSEB exchanges and interfaces concentrate only on a short version to introduce the proposals.

2. SSAC-II - 23 APRIL 1985

- Objectives:
- o Identify strengths and weaknesses of proposals (area by area)
 - o Describe concerns and basis of errors, omissions and clarifications required from each offeror

- o Report assistance provided through interfaces with SSAC
- o Describe plans to be executed before next meeting of SSAC

Comments: This second meeting between the SSAC and SSEB was highly productive and formed the basis for clarifying issues with the offerors. By the time of this meeting, the process of cleaning up errors and omissions was well underway, and fact-finding discussions with the offerors had begun. Because of the innovations sought through this RFP, unforeseen difficulties arose in evaluating contractual plans provided by the offerors. It will be recalled that the RFP did not dictate details of the proposed programs; therefore, the basic content of these plans was left to the offeror's initiative. The approach resulted in plans that differed in substance from one proposal to another, causing more time and effort in face-to-face discussions with the offerors than had been planned. With these new concerns in mind, the SSEB was forced to conduct parallel sessions with the offerors so as to avoid slippage in the planned award date. A change in schedule details (but without a change in award date) was developed for this SSAC meeting, and the revisions were approved.

3. SSAC-III - 22 MAY 1985

- Objectives:
- o Develop results of preliminary evaluation and scoring
 - o Describe progress in fact-finding discussions and negotiations
 - o Prepare overview of potential model contracts
 - o Report assistance afforded by interfaces with SSAC
 - o Describe plans for completion of evaluation to be presented at final SSAC meeting
 - o Describe plan for down-select to one contractor team at time of Preliminary Flight Rating (PFR), and seek approval from SSAC to notify offerors

Comments: The third SSAC meeting contained considerable detail and provided a summary of potential problems that needed attention. Based on continued individual interfaces between the SSAC and SSEB, the exchanges during this meeting were extremely fruitful and produced a clear understanding of the remaining tasks. It was recognized by all that the preliminary scores shown were subject to change when Best and Final Offers were evaluated before the final SSAC meeting (SSAC-IV). Approval was given to notify the offerors of criteria to be used at the PFR down-select, and there were no critical issues that would require special attention. The remaining schedule, likewise, was approved, and the SSEB

was instructed to proceed with notifying offerors on a due date for Best and Final Offer.

4. SSAC-IV - 1 JULY 1985

- Objectives:
- o Present final evaluation and scores (based on Best and Final Offer)
 - o Describe strengths and weaknesses of proposals (area by area)
 - o Make recommendations for approval by the SSAC

Comments: This final meeting with the SSAC, again, provided a great deal of detail in describing the basis for the findings. After some discussion and review of lower level details, recommendations made by the SSEB were approved, and plans were set into motion to brief the SSA.

SECTION III

AUDIT TRAIL

As with any similar board activity, it is essential that all steps in the selection process be documented to support findings or to recount events for learning purposes. With respect to this SSEB, an audit trail is believed to have added significance, particularly because of the new initiatives and innovations identified in the RFP. Systems employed by the Board are described in Section II of this after-action report. Other documents generated to complete the audit trail are discussed in the paragraphs below. In addition, it is the intention of the U.S. Army Materiel Command to disseminate basic content of the contracts along with this document so as to permit applications of the principles to other acquisitions.

A. SSEB BOARD REPORT

The Evaluation Plan details the procedures, methods, structure, and documentation required of the SSEB. The Board Report is the culmination of the documentation process that includes the subfactor, factor, element, and area narratives and scoring. For the T800, this report was developed in iterative steps and reflected findings from the initial proposal, the EOC process, fact finding, negotiations, and the Best and Final Offer (BAFO). However, as discussed previously, BAFO supersedes all earlier findings and is the basis for the SSEB recommendations presented to the SSAC.

The SSEB Board Report contains four Volumes. Volume I is intended to be an executive summary and a comparative analysis of the proposals, including overall Board findings. Volumes II, III, and IV contain the board findings down to the subfactor level; one volume for each offeror.

The outline of the Board report for the T800 SSEB is shown below.

BOARD REPORT OUTLINE

VOLUME I

- o Executive Summary
- o Roster of SSEB
- o Source Selection Evaluation Plan
- o Professional Qualifications of Evaluators
- o Comparative Analysis

VOLUMES II, III, and IV - The remaining volumes, one covering each of the three offerors are identically structured and contain the specific scores and summaries.

- o Introduction

- o Evaluation Sheets/Narratives/Scores - These working papers precisely cover the paragraphs of the Evaluation Plan in sequence, beginning at the lowest levels scored and rolling successively through Factors, Elements, and Areas.

B. SSEB AFTER-ACTION REPORT

This document, which presents the activities of the T800 SSEB, is intended to provide guidance to others who may become involved in a similar source selection process. Each board will seek its own, most effective methodology; therefore, it is not the purpose here to define how it must be done. The value of this document, instead, is in lessons learned and in surfacing potential obstacles.

Although this SSEB attempted to use lessons and recommendations from previous boards, the departure from past practices made these earlier reports less useful than had been hoped. The approach, the innovations, and the new initiatives required by the RFP, placed many all-new concerns before the Board. These aspects are described throughout this report and will not be repeated here. Many of the topics discussed are representative of thoughts expressed jointly by the offerors, SSAC members, and participants in the evaluation. Specific references to these common views are found in Sections II, IV, and V.

C. DEBRIEFS

1. **Losing Offeror** - The debrief was conducted for the unsuccessful offeror in accordance with FAR 15.1003 at his request. The purpose of the debriefing was to identify strengths and weaknesses of his proposal, as compared to the requirements of the RFP. The debrief was not intended to reveal relative merits, technical standings, contents, evaluation scoring, or similar information derived from competing offerors' proposals. It should be noted that FAR restrictions define the type of information that can be revealed, and it became clear in the T800 debriefing that the unsuccessful offeror would have found the meeting much more valuable if the specific level of weakness or strength in the proposal could have been disclosed. Recognizing that this concern is not new to any board of this type, it is recommended that the losing offerors' evaluation scores be revealed during the debrief, but without making comparisons of any kind to the other offerors. In this way, the unsuccessful offeror can enhance his understanding of areas that needed improvement. The information, obviously, can be of significant value in future competitions. Without this exposure, it will be difficult for any offeror to identify the magnitude of corrections necessary or the direction of new emphasis.

Another consideration for future SSEBs is the potential of releasing portions of the Evaluation Plan to the offerors with the RFP. As

discussed earlier, it also may be beneficial to provide copies of regulations and pamphlets with the RFP. The insight should give the offerors a better understanding of the selection process.

In summary, the level of information provided to an unsuccessful offeror in a debrief should be of sufficient detail to permit him to recognize his strengths and weaknesses more readily. He then can place proper emphasis and effort in appropriate areas so as to strengthen future proposals, which, ultimately, would benefit the government.

2. Winning Offeror(s) - A debrief normally is held with the winning contractor also, and, while not mandatory, it can prove to be highly beneficial to the government, as well as to the contractor. Its purpose is to identify areas in which the government believes that the contractor can focus additional attention during performance of the contract. It can be an excellent forum for exchange of information and ideas, although it is not directive in nature. For the T800, the expected benefit of such a briefing is that the contractor very likely will take appropriate actions to be in a more favorable competitive position at down-select, with the government being the ultimate beneficiary.

SECTION IV

NEW INITIATIVES

The purpose of this section is to highlight the major lessons learned and identify key positive aspects of the new way of doing business. As noted in previous sections of this report, the structure of the T800 SSEB was a major departure from past practices, particularly as related to the evaluated areas and their respective weighting. Historically, other SSEBs were structured into three Areas - Technical (weighted 70%), Management (weighted 30%) and Cost (evaluated but not weighted and scored). For the T800 SSEB, there were five Areas (Figure 3). The two new Areas were RAM/ILS and Production Competition, both of which were a direct reflection of the Army's dedication to key LHX Program goals. These areas also emphasized the importance placed on affordability. For a complete description of the initiatives fostered by this break with tradition, the reader is referred to the after-action report on the T800 RFP, An Innovative Approach to a Performance-Oriented Request for Proposal, dated 10 December 1984. That report described the rationale and approach to evaluation of Production Competition and RAM/ILS, both of which, for the first time, were considered as key drivers in the selection process. It was regarded with the utmost importance that the offerors address these new areas thoroughly in their proposals, much more so than in any previous acquisition. More specifically, the offeror stood the risk of having his proposal rejected if Production Competition initiatives were not addressed completely, regardless of the merits associated with other areas of his proposal. The impact of adding Production Competition and RAM/ILS to the evaluation was offset somewhat by the change in emphasis on the Technical and Management Areas. On previous SSEBs, RAM and ILS were included as elements or factors under the Technical and Management Areas. However, both new Areas contained subject matter that had not been evaluated by any previous SSEB. In addition, Cost was being scored on the basis of firm fixed price guarantees and liabilities, most of which involved far-reaching commitments never before required at the outset. Therefore, the evaluation truly required learning on the part of both the evaluation team and the offerors, alike.

Along with this change in emphasis, a number of experienced SSEB specialists were in short supply. Many board members (approximately 90 percent of the RAM/ILS evaluators) had never served on an SSEB. Coupled with the many new initiatives in this Area, occasional lengthy and detailed training sessions were required, not just on the SSEB process, evaluator techniques, and administrative procedures, but on the overall conduct of the Board, as well.

It was obvious during the initial stages of the evaluation that several evaluators, although technically competent and capable, encountered difficulty in expressing their findings in clear, concise evaluation language. A prescribed format and examples of filled in scoring sheets with narratives would have minimized early inconsistencies and false starts. To preclude this concern, a training session for all members

should be conducted at least two days before proposals are received, regardless of their past participation on SSEBs. Covered in this training should be standardized formats (examples of proper write-ups and scoring procedures), criteria for strong and weak points or red and green flags, risk assessment, the RFP process and procedures for conducting negotiations.

Early-on, a major hurdle was to understand the philosophy of the performance-oriented acquisition method. The first few days of the board were used to read the RFP and Source Selection Evaluation Plan. During this time, those board members who had been involved with the development of the RFP worked extensively with the other members, answering questions and discussing the intent of the acquisition method. Downstream, an overwhelming majority of the participants embraced the new method and enthusiastically supported it. Clearly, the evaluators needed to understand that the offerors were given the opportunity to express their approach by laying out detailed plans, rather than parroting back plans dictated by the government in a more classical RFP.

Because it was the offeror's responsibility to evolve and then commit his plans, details developed through discussions and negotiations required a number of iterations. In addition, several issues remained open from one negotiation session to the next, and contracts received from all offerors at BAFO still contained varying degrees of weaknesses. For the T800 program, these weaknesses should be corrected easily during the competitive phase of development prior to down-select. However, there is a legitimate concern that if only one contract had been awarded, there might not be the same opportunity to review and renegotiate issues. The government should reevaluate the process to assess whether a follow-up negotiation session with the selected winner(s) can produce the desired result without a negative impact on other commitments.

A. MANAGEMENT AREA

The Management Area was reduced in scope as a part of the selection process for a number of reasons. Having separated RAM and ILS from the Management and Technical Areas, it became clear that the only question to be addressed was whether management systems in place in industry were well enough structured to exercise necessary controls and to conduct the engine development program. Obviously, all offerors brought great strength and prowess to the government in their proposals. Therefore the question was of little significance particularly in view of the requirement for a firm fixed price development contract, with the offerors prepared to make long-range commitments and guarantees. In addition, most issues were more closely tied to the other areas of the evaluation structure.

The Management Area (Figure 6) included five individuals - one chief and four evaluators, who concentrated on how teaming was implemented, while maintaining the management effectiveness of the parent organizations. Distribution and allocation of authority, responsibility, workload and resources were examined, along with communications, data flow, and checks and balances within the proposed team structure. Two of the Elements - System Engineering Management and Configuration Management - served only

to confirm that all offerors would conduct these functions in the traditional fashion.

In retrospect, the Management Area tended to be more like business as usual than it should have been, and the RFP and the Evaluation Plan did not go far enough to change that situation. In future similar programs, it is recommended that Management be eliminated as an Area and that the functions be conducted in each of the other areas where the issues are better defined and more specific. If, for purposes of an overview, Management should be retained as an Area, it should not be weighted and scored and should be used only to ensure that there are not major management shortfalls.

B. PRODUCTION COMPETITION AREA

The T800 SSEB was the first board to evaluate Production Competition as a separate Area. Never before had the Army attempted to obtain such long-term commitments to competition this early in a program. Clearly, establishment of this Area was a precedent-setting break from business as usual, and the resulting visibility served to demonstrate the Army's dedication to developing affordable weapon systems.

The Production Competition Area (Figure 7) was divided into three Elements - End Item, Parts, Producibility Engineering and Planning (PEP). The area was staffed with 19 people from a variety of backgrounds. Like the RAM/ILS Area, there was some early concern for locating and assigning experienced people to staff the effort. Because this Area of the evaluation was completely new, no comparisons can be made with past practices. However, the innovative aspects of the T800 contracts related to Production Competition Area are extensive. In view of the foregoing discussion on the Management Area, it is suggested that a better structure for Production Competition would have been as shown in Figure 8.

Among the more significant departures from past practices derived from the T800 RFP were readiness and production competition initiatives. In the latter area, offerors were expected to address the following subjects in their proposals.

- o Competition in Research and Development
- o Alternate Production Sources
- o Facilities Provided
- o Competition Among Subcontractors
- o Expanded Base of Vendors and Suppliers
- o Technical Data Package (TDP) Options
- o Additional Vendor Qualification Options

- o Proactive Socioeconomic Initiatives

- o New or Better Ideas to Enhance Competition

It was intended that as a result of this early emphasis on production competition, winning contractors would strive to maximize their dedication to executing plans, improving production and cost commitments, and meeting or surpassing schedule requirements while conducting technical development. In the case of the T800, the competing teams are aware that based on overall performance and progress, a government down-select to one contractor team after about 3 years of FSD lies ahead. Therefore, a team must demonstrate that it is best prepared to continue development through qualification and be in a ready state to enter production. A critical point in the schedule beyond FSD is at lot III in production (2 years after qualification), where the companies which make up the down-selected team will compete to deliver the same engine. The T800 Acquisition Schedule/Milestones are shown in Figure 2.

A unique feature of the T800 engine RFP lies in the requirement for technical transfusion during FSD and the establishment of a second production source of the same design for the successful team. It is important to realize that contractors have agreed to exchange the necessary technology and know-how in a contractual agreement established for the end item portion of the Production Competition Plans. These innovative plans are contractually-binding attachments. Agreements have been negotiated to define practices and procedures to achieve the technical interchange necessary to enable production of the selected single engine design at each of the two facilities of the down-selected team. At the end of the development program, both must manufacture and test that engine (300-hour test) to demonstrate the ability of each to deliver independently.

This key competition facet of the program is also a strong readiness feature. The Army now has prepared itself to enter production with two engine sources, and with complete interchangeability of all parts and components. Regardless of the winner at down-select, the developer team is contractually committed to maintain interchangeability and have agreed to establish an Interfacing Material Review Board for nonconforming material, Class I design changes, Class II design changes and Tooling Data Bases. Periodic interchangeability demonstrations will be and are an important factor in ensuring maintenance of the common design. The required commonality will be maintained through agreements covering procedures to control Engineering Change Proposals (ECPs) for Class I changes. With two production sources, it also appears certain that there will be fewer Class I changes than in the past. This observation is based on the belief that some proposed changes, which may be associated with advantages to a single contractor (because of a unique technical or manufacturing situation) will be avoided altogether. This self-imposed control and configuration stability sought by two manufacturers also is expected to result in earlier maturation of the configuration, which will yield improvements in productivity and unit cost. It follows that the contracts are constructed to establish and maintain production competition between two prime sources throughout the life cycle of the T800 engine program. The concept will provide for a lower tier production base to support surge and mobilization

spare and repair parts, as well as two sources of supply for end item engine production.

Another key element written into the contracts is that the government will not directly fund facilitization of the T800 engine, nor such previously-funded items as special tooling and test equipment. The approach is to require industry to make these commitments, including any related requirements in the vendor and supplier chain. A fallout of this approach is that planning for test equipment, tooling and facilitization will be integrated carefully with overall corporate investments and will force industry to apply controls over the development community, including consideration of nondevelopmental items where little or no facilitation will be required.

With company financial commitments at all levels in the subcontractor/vendor chain, it is expected that initial vendors and suppliers will remain active as sources of supply throughout the life cycle, offering cost and readiness advantages. The stability in the vendor base will offer a significant capability for the Army to surge and/or acquire mobilization quantities.

The innovations fostered will yield a significant improvement in parts competition (two sources minimum for all parts) when the engine enters production. The present unfavorable situation in mature weapon systems, as well as in initial production items, requires that the government and contractors convert sole-source parts to competition by breakout, part by part, at considerable cost to both. This situation will be avoided for all practical purposes with T800 contracts. Should any form of breakout and parts management (because of high cost parts) be required, the contracts already contain priced options to buy Technical Data Packages and qualify alternate vendors. In effect, a fallback position already is written into the contracts.

To achieve intended objectives at the beginning of production, the contract requires competition beyond the prime contractors own bill of material. Because the baseline engine is considered to be mature at that point, the contractor can elect to propose parts for an option to acquire Technical Data Packages (TDPs). Firm TDP and AVQ option prices are established in the contracts which can be exercised through delivery of the last hardware in the fifth production (Lot V) contract. Also the contracts specifically identify the type of rights associated with each TDP. However, the rights specified must meet the Government's minimum needs for competitive repurchase of parts in order to have enhanced the contractor's proposal and gained a positive evaluation. In addition to any proposed TDPs, the contracts include a provision which takes effect a fixed period after the award date of the FSD contract, and grants the Government additional rights in any limited rights technical data deliverable under this or any future related contract. These additional rights permit the Government to disclose the data to a third party to manufacture replenishment parts, subject to a restriction against further disclosure by the recipient. The Government's responsibility to the contractor is limited to providing the data to the recipient with the appropriate

restrictions. This provision has particular importance for replenishment parts which do not require detailed process and manufacturing specifications to manufacture the part, such specifications not normally being deliverable items under the contract.

For parts not included in the contractor's own bill of material and for parts not identified for the TDP option, the contractor has proposed to qualify alternate vendors at government expense. However, a firm fixed price or not to exceed price for the qualification of these additional sources already has been negotiated and established in the contract. Closely connected to the keystone of competition in the contractor's bill of material is the requirement that second sources be qualified to the same specifications and in the same manner as the original source. Concern related to imposing these requirements on small, small disadvantaged and women owned businesses caused the Army to seek an assurance of fairness in the qualification of additional sources. Therefore, in the development and execution of his plans, the contractor is required to have available as the second source, small, small disadvantaged and women owned businesses or prove that such sources of supply do not exist or are not in the best interest of the Army. This approach is proactive and requires the contractor to canvass the domestic industrial base to locate and solicit such suppliers. For the contractors, subcontractors, vendors and suppliers, it is extended to include the alternate vendor qualification option.

Yet another innovation within the contracts is the challenge to industry to be responsive by offering unique business proposals intended to achieve the goals and objectives that, historically, were accomplished by breakout and alternate vendor qualification. Proposals contained in the contracts consider alternatives to the government's acquisition of technical data, management of the configuration, procurement of breakout hardware, and administration of alternative source contractors (as well as government cost attended to those efforts). New ideas have been offered, and the Army now must address changes to historic ways in which business has been conducted. During this first 36 months of FSD, the Army must fully develop the potential for implementing (partially or completely) the contractually-offered new ideas.

The T800-XX-800 RFP, the Evaluation Plan, and the subsequent SSEB actions have enabled the Army to obtain, for the first time, contracts with industry which contain a binding plan for establishment and maintenance of vendor and supplier competition for engine parts in an expanded industrial support base. The Competition Plan was negotiated in great detail to provide firm commitments and milestones, as well as challenging goals.

C. TECHNICAL AREA

The Technical Area of the SSEB was structured as shown in Figure 9. Essentially, it was the same as for previous engine SSEBs. However, it is important to note that the number of evaluators was reduced by about 25 percent, largely because of extensive use of computer systems to perform such analyses as bearing life, engine performance predictions, and

structural integrity (as opposed to manual systems or desk-top calculators). In reviewing the structure of this Area, it is suggested that in future RFP/SSEB activities, Survivability and Vulnerability be moved from RAM/ILS to Technical as this subject is more closely aligned to topics covered under design and development. This change, along with the previously discussed shift away from the Management Area, is shown in Figure 10. Other lessons learned, recommended improvements and considerations for future procurement actions are provided below.

In the T800 engine acquisition strategy, the performance-oriented RFP represented the government's intention to provide industry with flexibility in meeting technical requirements. It translated into discarding the "how-to-do-it" dictates of former RFPs and allowed industry to propose a best plan and approach, including their optimizing of trade-offs. Having now evaluated the proposal resulting from this RFP, several areas of caution can be identified. The first, and probably most important, is that although there is wide support for not telling the offeror how to meet design requirements or put together his program, the government should clearly identify the kind of testing and substantiation needed to support the design. Also, care must be taken to ensure that any trade-offs proposed by an offeror and approved by the evaluation team be disseminated to all offerors so that a fair, competitive environment is maintained. These details will become part of the contractual plans; therefore, it will be necessary for the evaluators to use them in developing risk assessments. It has been the perception that too many such details were contained in military specifications. On the other hand, it is not enough to tell offerors that their engines must ingest birds or operate in a dusty environment without defining the environments. In this example, the size, weight, and speeds at which a bird might be ingested, and the sand concentration and particle sizes expected, must be provided for the designer. When such topics are not addressed in the RFP, a question certainly will arise as to what the real requirements are. The concern also carries over into the Evaluation Plan and must be dealt with clearly to provide primary evaluation criteria. There must be no ambiguity between the RFP and any follow-on activity (the offeror's proposal, the government's evaluation, and performance of contract).

Regardless of the number of military specifications eliminated, a large number of them were developed on the basis of many years of lessons learned. Without question, many should be discarded as not necessary or germane, and each one eliminated will require some explanation or re-training for evaluators so as to avoid costly and time-consuming effort. The answer may be to develop generic specifications that can be tailored to the special requirements of the procurement at hand, and eliminate all others. It is recognized that it will be the offeror's responsibility to define how he intends to meet those requirements. We should, however, continue to define, in sufficient detail, the pass-fail criteria for testing necessary to substantiate that requirements have been met.

D. RAM/ILS AREA

The establishment of RAM/ILS as a separate evaluation area was a bold and innovative break with tradition. Previously, the elements and factors of this area were placed with the Technical and Management Areas of SSEBs. The change was made to give a very clear signal to industry that the government intended to view RAM/ILS as equal in importance to any other area evaluated. Therefore, it truly became a potent entity, possessing the same influence on the selection as Cost and Technical Areas. This new status, a clear break from business as usual, was reflected in the RFP with a weighting factor of 30 percent.

The RAM/ILS Area was structured with separate RAM and ILS Elements, as shown in Figure 11. They were weighted 60 and 40 percent, respectively. The RAM element was divided into six factors (Reliability, Maintainability, Hazard Control, Human Factors, Quality Engineering, and Survivability/Vulnerability) while the ILS Element was divided into two Factors (Logistics/MANPRINT and Air Vehicle Support (AVS)). Each element and factor was headed by a chief whose duty was to provide overall direction and management of his particular topic of evaluation. At the height of the Board's activity, there were 20 evaluators in the RAM Element and 17 in ILS.

To enhance the interaction among evaluators of Maintainability and Human Factors in the RAM Element and interface the maintenance concepts with MANPRINT evaluators in the ILS Element, a structure that would have led to a better, more effective integration of RAM and ILS is shown in Figure 12. It depicts a structure that also provides higher visibility to MANPRINT. It will be noted, as discussed earlier, Survivability/Vulnerability have been shifted to the Technical Area. Other changes from Figure 11 are in the weighting of factors under RAM. Because of the importance that ultimately will be placed on the Quality Engineering Factor, and considering the requirements and plans that must be evaluated, it is recommended that it be afforded higher weighting in future SSEBs.

The structure used for the performance-oriented RFP surfaced a significant problem during evaluation of the required RAM/ILS plans. Because requirements were stated in several different sections of the RFP and the Systems Specification, the offerors provided information vital to the RAM/ILS evaluation throughout their proposals, and much of this information was not cross-referenced to the RAM/ILS volumes. Apparently, offerors assumed that the ILS evaluators had read all parts of all proposals. Therefore, in the initial stages of the evaluation, vital topics might have been missed by evaluators who were not aware of the content of other volumes. Some unnecessary EOCs and lengthy discussions with the offerors that followed could have been avoided if a cross-reference system had been required by the RFP. For the benefit of all, future RFPs should provide clear instruction that the offeror should repeat or otherwise identify all material believed to be germane in every volume of his proposal. It should be the offeror's responsibility to ensure that as a minimum, every volume is cross-referenced so that the evaluators can track the information in the manner that the offeror wishes.

E. COST AREA

Early in the formulation of the RFP, it was determined that the Cost Area would be scored. This was a major departure from previous source selections, where cost was estimated and presented by evaluators, but not scored. The Cost Area was weighted 30% of the total T800 evaluation, and, as shown in Figure 13, there were three elements defined and weighted - Research, Development, Test, and Evaluation RDT&E (20%), Procurement (40%), and Operating and Support (40%). Following the overall tone of the RFP, the Cost Area instructions were brief and performance-oriented. The page count of the Cost section of the T800 RFP was two pages, compared to approximately 30 pages in other solicitations. In this evaluation, the Procurement and Operating and Support (O&S) Cost Elements did not concentrate on comparisons against a complete and documented government estimate of the offeror's data. Instead, government goals were set for Procurement, also known as Design-to-Cost (DTC), and O&S Cost. In this break from business as usual, offerors were required to propose contractually-binding guarantees in support of their own definitive commitments. In the spirit of this performance-oriented acquisition, all details on how to propose the DTC and O&S guarantees were left entirely to the offeror's option. Despite this obvious brevity in the RFP, offerors' responses were very detailed. Even greater detail was developed with the offerors in follow-on discussions during the evaluation period. RDT&E Cost, as required by the RFP, was offered as a Firm Fixed Price (FFP), with the exception of an Air Vehicle Support line item, which was requested on a cost-type basis. For this RDT&E Element, a considerable amount of depth and back-up detail was required to assess labor, materiel and burden in the Work Breakdown Structure (WBS). Therefore, the RFP required that such detail be provided on computer floppy disks, using LOTUS, 1, 2, 3, software - another innovation that proved to be most helpful to the evaluators and will be equally beneficial to the LHX Project Manager after contract award.

Overall, the Cost Area was assigned eight full-time and six part-time analysts, which was about half the usual number for a major source selection. One reason for using less manpower was that the RDT&E cost was offered on a competitive, FFP basis, and, based on predetermined independent government estimates, all offerors were well within goals. There simply was less need for arduous changes after detailed cost negotiations. Secondly, use of desk-top personal computers and accompanying software relieved the Board of performing detailed spread-sheet calculations. In the future, when data are required on tape/disk, consideration should be given to requesting one hard copy of the data, as well.

It was envisioned that the evaluation of guarantees for DTC and O&S cost would be less time consuming than the traditional requirement to perform a complete independent government estimate for these elements. In reality, the reverse was true, and, indeed, it was necessary to conduct a detailed analysis for each offeror and to interface with the legal advisor, Technical and RAM/ILS personnel. Perhaps, a generic cost model could have been developed early-on to cover an estimated range of DTC and O&S costs,

but the more correct approach proved to be that maximum flexibility would be achieved by permitting specific features of each engine to influence the offeror's proposal. To maintain this flexibility, however, detailed attention was given to these elements throughout discussions and negotiations, and considerable analysis was necessary. Therefore, different from RDT&E, more manpower than expected was required to evaluate Procurement and O&S Costs. In future SSEB activities, where the same approach may be used, it is recommended that at least two economists be available (one full-time, one part-time) to project the impact of guarantees on budgets in the out years. The need is for a very precise and explicit escalation analysis. In short, the new and innovative approach, which shifted cost assessments toward evaluation of guarantees, probably did not yield a net manpower reduction for the Procurement and O&S Elements. The time required to perform the evaluation, as compared to past SSEBs, was judged to be about equal.

As discussed earlier in this report, the last days for the evaluation (between BAFO and the final SSAC briefing) were extremely busy and overloaded the entire SSEB. It is strongly recommended that at least 2 weeks be provided to future SSEBs to avoid a hectic situation involving preparation of several detailed briefings and completion of the final analysis at the same time. This was particularly true in the Cost Area, where a complete reverification of the offerors' data was essential to produce accurate and reliable final scores. Obviously, the time required will be highly dependent on the number of offerors and the available evaluation specialists; however, the schedule for these closing days must be considered carefully by the SSAC and SSEB planners.

Scoring of Cost was a major departure from past practices, and, in previous SSEBs, it was regarded somewhat as a self-scored area, already offered in proposals in quantifiable form. In the case of this solicitation; however, the RFP required the offerors to guarantee DTC and O&S Costs and allowed great latitude in presenting these guarantees. As such, the evaluation involved far more numerical comparison and analysis than in the past. Inclusions, exclusions, limitations and financial constraints on contractor risk required that the SSEB's analysis of guarantees consider many strengths and weaknesses which, otherwise, would not be apparent. In retrospect, scoring Cost was not just desirable, it was a necessity. There is every reason to believe that future SSEBs should be prepared to do the same. However, the offerors should be advised in the RFP that coverage, including depth and firmness of guarantees, warranties, and liabilities beyond just definitions, could be a plus in the scoring. The suggestion is based on this board's experience with both DTC and O&S, wherein the Evaluation Plan allowed for considerable weight to be assigned against non-quantifiable or hard-to-quantify features of these guarantees. For example, one-fifth of the Procurement (DTC) Element score was allotted to other procurement costs, but because there was no specific cost that could be associated with this topic, which was dominated by spare parts costs, the allocation probably was too high.

It also became clear during the evaluation that more guidance should have been provided in the RFP to encourage flexibility in formulating guarantees. A major lesson learned in the new approach is that if the govern-

ment has a minimum standard for coverage which will be used in the evaluation, it should be stated directly in the RFP. Stating a simple standard, such as pounds of fuel per gallon, would have avoided inconsistencies in O&S costs and saved unnecessarily repeated discussions and reevaluation. In another case, not nearly so simple, the production schedule provided with the RFP tended to emphasize one level of delivery, and the importance of flexibility (driven by availability of future procurement funds) was not emphasized enough. Clearly, the offerors and the evaluators realized beforehand that production schedules made years in advance of obligation authority will change, and some range of flexibility should have been expressed in the RFP without leaving the impression that there was a single, set schedule. The needed flexibility, therefore, was clarified through the EOC process and the follow-on discussions, and all offerors met the requirement. Time and effort also could have been saved if economic escalation methodology had been defined in the RFP, along with midpoint expenditures for inflation. While the economists assigned to this board had no specific difficulty in handling inflation indicies, future SSEBs might want to establish a uniform definition. For the T800, each offeror defined his own methodology, and it was necessary for the evaluators to develop three separate assessments of the methodology used. Another DTC concern was that much attention was placed on the two quantities specified in the RFP (250 units and 10,000 units), and the desire for previously mentioned flexibility was not clear. It should be emphasized in future RFPs that benchmarks be used only in the context that many other production points are to be evaluated. The important issues here should be the total commitment to DTC with a wide array of potential quantities.

An O&S goal for a set number of engine operating hours was found to be desirable. However, this SSEB found that the goal translated into overly restrictive guidance that could have limited some of the creative and attractive approaches. As the date for BAFO approached, however, the offerors continued to refine their bids, probably because of a recognized need to provide depth and firmness in the guarantees and liabilities that they were willing to accept.

In the final analysis, the new and innovative approach greatly improved the acquisition process and resulted in contractually-binding guarantees for DTC and O&S. These guarantees extend for up to 20 years. Should they cease to exist before the full life, they will have been in place long enough to drive home the point that contractors are expected to share responsibility for O&S risks along with the government. This shift, indeed, is a new way of doing business, and the government now has the contractual tools in place. If the Army, DOD, and Congress do not hold the contractor to the conditions of these guarantees or if the program is allowed to vacillate and change continuously, the advantages, likewise, may not hold. Congress, DOD and the Army must continue to be a wise spender of the tax dollar.

F. CONTRACTING/LEGAL

The core Contracts/Legal team provided support for all areas involved in the evaluation. One specialist, was assigned to each proposal (offeror) and was responsible for all contracting actions and contact with that offeror. In addition, another specialist was assigned responsibility for

preaward surveys, subcontracting plans, RFP amendments, and audits. During each step in the evaluation process, it was essential that at least one legal advisor be available to the Contracting Officer and the leadership of the SSEB. In addition, Contracting and Legal representation was mandatory at all meetings with the offerors. Careful and thorough coordination was exercised by the team to ensure that information disseminated to the offerors was consistent and that a fair, competitive environment was maintained. Administratively, the Contracting/Legal staff was critical to the EOC process and was responsible for developing, controlling, and maintaining all necessary files.

During the period in which parallel discussions were held with the offerors, the sudden increase in workload required that two additional legal advisors be assigned. Without question, this addition to the staff left the sponsoring command shorthanded for several weeks and probably placed a severe hardship on the parent organization. In future SSEBs, it is highly recommended that this new way of doing business be accounted for early and that schedules which force parallel meetings be avoided, if at all possible.

The task before this team was to implement the acquisition strategy by focusing on:

- o maximizing competition during all phases and at all levels of the program;
- o providing offerors the opportunity to propose and to accomplish the program they believed would best satisfy the Army's requirements; and
- o shifting a large share of the program risk from the government to the contractor.

The contractors' and Army's commitments to competition have been made at the outset, beginning with development and continuing through production. This competition will force contractors to pursue design and development vigorously and activate the required organizations to implement the RAM, ILS, and Production Competition requirements. To obtain long-term benefits and maintain a competitive environment with the two developer teams, offerors were required to guarantee their cost and performance now, rather than cite future goals to be negotiated later. For a summary of the long-term benefits resulting from this new way of doing business, refer to T800 New Initiatives, Figure 1, of this report. It will be noted in the Competition Area that each of the developer teams is contractually-bound to establish and maintain a minimum of two sources for all parts. For the first time in Army aviation, the selection process forced the offerors to address such issues in their proposals and to begin execution of their related plans early in development.

In another first, this SSEB faced three different teaming arrangements - a joint venture, a leader/follower and a partnership. All were viable arrangements, devised specifically to meet the Army's T800 Engine requirements for end item competition. Although each of these teams was char-

tered differently, they presented similar problems, which included detailed development and transfer of technology and data, the basis in law and in corporate rules which authorize the teaming arrangement, and establishment of an enforceable contract with the team. Establishment and maintenance of dual end item sources required comprehensive procedures for data and technology transfer, particularly as related to Class I and II Engineering Change Proposal (ECP) data and to Material Review Board (MRB) actions. Although MRB actions do not individually impact form, fit and function, they might accumulate with time and adversely impact interchangeability. To guard against that concern, procedures developed early in discussions will preclude a sole-source situation, and the government now has the right to direct the transfer and to develop a method of pricing with ultimate resolution in the disputes procedures.

An early concern addressed whether the established teaming arrangements complied with state law and with the rules of each corporation. Documentation was submitted with the proposal as substantiating data; however, the government needed assurance that a contract not be signed with a shell organization that had no assets and no employees, thereby rendering the contract non-enforceable. Therefore, it was necessary to incorporate joint/several liability, whereby the corporations which formed the team would be signatories to the agreements and responsibilities established by the entity. Care was necessary to assure that the individuals who signed the contract were authorized to bind the corporation and the team. In the process, the subject of anti-trust concerns also was addressed, especially as related to the follow-on, competitive production phases of the program. It became the contractor's responsibility to assure that antitrust provisions were properly considered and not violated.

As discussed earlier in this report, flexibility to define program details was given to the offerors. Contractually-binding plans were developed which describe how the offeror will fulfill the requirements. These plans also will be used by the Army to track progress, manage the programs, and provide a basis for down-select which is scheduled to occur after 3 years of development. To reiterate, the program approach and milestones unique to each contract have been established in program plans at the outset, and each team's progress will be measured against the deliveries stated in those plans. It is important to note that for evaluation purposes, the Systems Specification had precedence over the program plans, as indicated in the RFP. However, it was mandatory to have the offerors contractually commit to those program plans.

Obviously, any inconsistency or discrepancy between the program plans and the System Specification presented a problem. The solution was to determine whether the System Specification met the RFP requirements before attempting to evaluate contractually-binding program plans. With a positive finding on that question, evaluation scores then were applied to the program plans for performing against the System Specification. In future acquisitions, it is recommended that early steps be taken to include clear instructions that the System Specification takes precedence.

In summary, shifting the risk to the contractors, was achieved successfully. Cost risk was accepted by the contractors, beginning with the firm fixed price FSD contract. They are committed to demonstrate the government's requirements during FSD, including demonstration of the RAM requirements. The contracts also established that the government will not pay directly for facilitization, including brick and mortar, and all tooling. In that vein, the contractor will assume the risk of facilitizing in the time frame necessary to support program requirements, and it is expected that they can recoup these costs on an indirect basis in some later phase of the program. It must also be noted that the contractors have assumed a high level of program risk by guaranteeing a ceiling price for the end item and a maximum cost to the government for operating and support of the T800 engine. Included are substantial contractor liabilities if these guarantees are not met.

In the foregoing discussions, a point was made that this acquisition has shifted risk to the contractors. Another point was that the major difference between this acquisition and others is that requirements were established for contracting purposes in lieu of objectives or goals that have dominated previous programs. For the T800, the contractors accomplish all that is necessary, including redesign, retest, requalification and retrofit, at no increase in contract price, to demonstrate the FSD requirements.

SECTION V

OFFERORS' RESPONSES TO NEW INITIATIVES OF RFP

Because the T800 Engine RFP and its innovations were such a departure from past practices, both the SSAC and SSEB believed that candid comments from industry would be beneficial to assessing how well the process met the Army's objectives. With that desire in mind, letters from the Commander, U.S. Army Materiel Command, were sent to each offeror's corporate leadership to solicit their views. Responses were received prior to the final SSAC briefing, but they were safeguarded at AMC until after the SSA briefing so as to not reveal contents to members of the SSAC or SSEB until the selection process was completed. Overall, the offerors believed that the that new approach to acquisition was a positive step forward for the Army. More specific comments, as related to the major topics covered in the process, are given in the paragraphs that follow.

A. REQUEST FOR PROPOSAL

Each offeror recognized the performance-oriented RFP as an improvement and a welcome departure from past practices. One offeror noted, however, that "inclusion of many military specifications by reference ran counter to the idea of a short, performance-oriented RFP document." Another believed that there was 'little opportunity for the responder to use his own initiative in establishing favorable trade-offs between engine design parameters; whereas, a true performance-oriented program would have specified some gross overall parameters and left the responder to determine how best to meet the requirements'. On the other hand, other offerors indicated that they, themselves, had a problem breaking the business as usual attitude and did not take full advantage of latitude allowed them in the RFP. It was pointed out that the Army contributed to that interpretation with the original "standard" T800 RFP that was sent to industry (August 1984) for review with the many specifications included. (Editor's note: Several follow-on refinements without the large number of specifications also were reviewed by the industry. The last of these preliminary editions was very close to the final version issued on 5 December 1984.) One offeror believed that the 2,000-page limit on responses was good and that it 'forced a more tightly constructed and well thought-out response.' Relative to the 90-day response time between the RFP issue and the due date for proposals, the offerors believed that they had adequate preparation time. Overall, the RFP was regarded positively, and the tone was that once the Army and the industry become more accustomed to the new approach, the benefits to both parties will increase proportionally.

B. ERRORS, OMISSIONS, AND CLARIFICATIONS (EOC) PROCESS

All offerors recognized the need for the EOC process. It permitted them an opportunity to fill voids, develop a better understanding of RFP requirements, and adjust their proposals accordingly. Some offerors commented

that EOC responses might not have been delivered to the questioners fast enough, nor disseminated to all interested members of the SSEB. One offeror pointed out that an EOC often required more than the allotted 3 days to develop a complete answer. However, the overall reaction to the process was positive, and they believed that it should be continued. In terms of value, all offerors found the face-to-face discussions and negotiations to be more beneficial than EOCs.

C. DISCUSSIONS AND NEGOTIATIONS

All offerors commented that the fact-finding discussions and negotiations provided the best means for clearing up their proposals and for understanding the government's requirements. Most offerors commented that the SSEB negotiated the desired government position in a more complete manner than has been encountered in previous procurements. One offeror felt strongly that it was in the best interest of the Army and the contractor to use negotiations as an allowable approach to the solution of a problem. Further, it was pointed out that, 'pre-determined courses of action (that leave no room for negotiations) are only as good as our joint ability to anticipate future events.' It was noted that the discussions were more complete than those encountered in past procurements and were extremely helpful. Overall, the use of open and in-depth negotiations was found to be indispensable to the success of a performance-oriented source selection process.

D. BEST AND FINAL OFFER

Some offerors noted that the uniqueness of this source selection process and its schedule did not place a well defined split between fact finding and negotiations before the BAFO. Otherwise, there was little in the way of comments on the BAFO. The general feeling seemed to be that discussions were held in a reasonable, business manner, and, as one offeror stated, 'not in the much maligned "BAFO" approach.' Further it was pointed out that 'this process affords the contractor the opportunity to continue to improve his proposal right through submission of the BAFO.' The consensus was that all offerors' BAFOs presented the Army with extremely attractive alternatives, and a difficult source selection. One offeror stated that the BAFO response consisted of the model contract and a large number of plans, and it would have been helpful if this intention had been identified in the RFP. Overall, however offerors believed that the Army has developed a much better approach.

E. CONDUCT OF BOARD

All offerors commented that the high level of professionalism of the SSEB was a key factor in succeeding with the new and innovative approach. There were a few comments on the apparent lack of time available for proper or complete dissemination of contractor supplied information to the SSEB; however, as one offeror noted, this source selection was, 'a quantum step forward in the acquisition process.' Another offeror tempered his enthusiasm with, 'this new approach for enhanced competition and strong commitments from Industry is in the right direction, but care must be exercised by the government not to overshoot the mark.' Further, another noted,

'the government must give thought to a sufficiently large production base for industry's shareholders to achieve a reasonable return on their investment.' The SSEB activity was summarized by one offeror's comment as, 'an excellent model for future acquisitions.'

SECTION VI

RECOMMENDATIONS/LESSONS

During the process of developing the RFP, structuring the SSEB, and conducting the evaluation, many firsts were encountered. Some of them led to a need to change course, and others proved to be the basis for lessons learned. All of these details are a reflection of the Board's evaluation process. It has been the attempt in this after-action report to surface those topics believed to be of most interest for future board applications. To assist the reader, this section lists recommendations made by the Board and, for reference, indicates sections where further discussion may be found.

1. RFP Coordination

a. ~~Coordinate RFP with~~ government and industry. Hold pre-proposal conferences to communicate the government's intentions. Develop understanding with potential offerors. Describe new initiatives and expected departures from past practices.

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b. Provide early opportunity for detailed learning discussions with offerors on proposed plans, guarantees, and long-range commitments.

Section I-A.4

2. Content of RFP

a. Exercise caution in eliminating government's tools for measuring contractor performance (CDRLs). Even so, nearly half can be eliminated from standard RFPs.

Section I-A.3

b. Provide Federal Acquisition Regulation, Army Regulation, and DARCOM Pamphlet on the source selection process to offerors with the RFP. Also provide portions of the Evaluation Plan.

Section II/Intro
Section III-C

c. Identify in the RFP the kind of substantiation required in the offeror's test program plans. Include sufficient detail to define pass-fail criteria.

Section IV-C

d. Provide weighting of areas, elements, and factors to be used in scoring of proposals (published in RFP). Use these weights to emphasize importance attached to each new initiative in the RFP.

Section I-A
Section II-G

- | | |
|---|------------------------------|
| e. Require offerors to submit RDT&E cost data on computer floppy disks, using LOTUS 1, 2, 3 software. Also request that hard copies be provided. | Section IV-E |
| f. Provide guidance to encourage offerors to be flexible in formulating long-range guarantees. Provide a minimum standard as the baseline. | Section IV-E |
| g. Emphasize scoring of the Cost Area. | Section IV-E |
| h. Consider a cost evaluation structure that emphasizes only quantifiable features, not just definitions, but depth and firmness of guarantees, warranties, and liabilities. | Section IV-E |
| i. Provide specific parameters when appropriate, rather than allowing each offeror to calculate standard values. | Section IV-E |
| j. Emphasize the need for broad coverage in guarantees for procurement, considering that production schedules and lot sizes will be driven by availability of funds in the out-years. | Section IV-E |
| k. Define economic escalation methodology. | Section IV-E |
| l. Assign benchmarks for operating hours to be used as guidance in developing operating and support cost guarantees. | Section IV-E |
| m. Define requirements for interchangeability, regardless of the number of vendor sources involved in the competitive procurement. | Section IV-B |
| n. Define whether facilitization will be funded. | Section IV-B
Section IV-F |
| o. Require that offerors develop contractual plans for priced options as related to technical data packages (TDPs) and qualification of alternate vendors. | Section IV-B |
| p. Establish that a contractual plan will be required to pursue enhancement of small, small disadvantaged, and women owned businesses. | Section IV-B |
|
3. <u>Staffing of SSEB</u> | |
| a. Assign key personnel early enough to play significant roles in the preparation of the RFP. | Section I-B |

- | | |
|--|------------------------|
| b. Assign team leaders (Chairman, Deputy, Chiefs, other key positions) 6 months prior to release of the RFP. Require full-time service of chairman and/or deputy 2 months before releasing RFP. | Section I-B |
| c. Require team leaders to define skills needed for the evaluation with enough lead time to identify and assign candidates at least 30 days before proposals are received. | Section I-B |
| d. Develop AMC/AVSCOM policy to establish appropriate means for making assignments to SSEBs less painful to parent organization. | Section I-B |
| e. Assign dedicated personnel for controlling EOC process. | Section I-B |
| f. Provide specialist for orchestrating formal and informal presentations. | Section I-B |
| g. Provide special training for clerical personnel for operation of new equipment (word processing, computer). | Section I-B |
| h. Provide economists for evaluation of long-range cost aspects related to procurement and operating support costs. | Section IV-E |
|
4. <u>Training of Evaluators</u> | |
| a. Begin training of evaluators 1 week before proposals are received. Cover the evaluation techniques necessary to address new initiatives. | Summary
Section I-E |
| b. Develop samples of completed evaluation sheets to be available during training period. | Section I/Intro |
| c. Define use of the Error, Omission, and Clarification (EOC) process, (along with responsibilities of evaluators, chiefs, and Contracting Officer) during the training period, emphasizing the purpose of the EOC form. | Section I-B |
| d. Conduct on-site briefing at least 2 days before proposals are received to develop uniform understanding across all segments of the SSEB. As a minimum, cover background of RFP, acquisition strategy, and rules of conduct. | Section I/Intro |
| e. Require that evaluators thoroughly read and understand the RFP and Board Operating Procedure (BOP) documents during the training period. | Section I/Intro |

f. Establish a BOP to describe plans for the rating systems to be used for performance appraisals of civilian and military personnel.

Section I-C

5. Overview by Offerors

a. Request overview briefing by offerors to SSEB within 2 days after proposals are received.

Section II-A

b. Request a short video tape (15-20 minutes) from the offerors to be delivered with the proposals.

Section II-A
Section II-B

6. Errors, Omissions, and Clarifications (EOCs)

a. Devote the first week to 10 days only to reading and understanding the offeror's documents and tapes to develop the basis for the EOC process.

Section II-A

b. Ensure that the evaluation team has completed its internal coordination before generating detailed questions for EOCs.

Section II-A

c. Review proposed EOCs thoroughly before issuing any to the offeror.

Section II-B

d. Conduct daily staff meetings with key individuals to ensure that the coordination has taken place with all principals.

Section II-A

e. Limit the EOC process to a period of about 2 weeks to ensure that it does not grow beyond its purpose.

Section II-B

7. Discussions and Negotiations

a. Concentrate effort on the fact-finding sessions to develop clarification of proposal details needed for evaluation.

Section II-C

b. Establish an agenda for fact-finding discussions and provide it to the offerors at least 3 days in advance.

Section II-C

c. Control all contacts with the offeror and establish that all meetings are to be conducted by the Contracting Officer.

Section II-C

d. Provide minutes to the offerors within 3 working days following fact-finding discussions or negotiations.

Section II-C

e. Do not begin fact-finding discussions until the EOC process is completed (if schedule permits). All offerors commented that fact finding and negotiations were the best means for clearing up their proposals and for understanding the government's requirements.	Section II-C Section V-C
f. Avoid parallel meetings with offerors (meetings in different locations at the same time).	Section I-A Section IV-E Section IV-F
g. Assess whether follow-up negotiations with winners may be beneficial.	Section IV/Intro
h. Provide at least one legal advisor to support the SSEB.	Section IV-F
i. Ensure that the technology transfer between partners is sufficient to prevent one partner from becoming a sole-source supplier.	Section IV-F
j. Ensure that offerors understand that the government intends for the offerors to be jointly liable via their partnership and individually liable via their roles as competing end item suppliers.	Section IV-F
k. Require assurance that a developer team's business arrangement considers all anti-trust provisions in preparing their proposals to the government.	Section IV-F
l. Ensure that acquisition strategy and milestones defined in the RFP are available for potential down-stream competition.	Section IV-E
8. <u>Evaluation Structure and Strategy</u>	
a. Include Survivability/Vulnerability in appropriate element of Technical Area instead of RAM/ILS.	Section IV-C
b. Require offerors to cross reference the various volumes of the proposal so that evaluators will not miss necessary information.	Section IV-D
c. Give MANPRINT more visibility in the RAM/ILS structure, and increase the weighting of Quality Engineering.	Section IV-D
d. Provide an SSEB structure that will strengthen and integrate MANPRINT with primary elements of RAM. Tie Human Factors to MANPRINT.	Section IV-D

e. Ensure that sufficient guidance is available to offerors and evaluators concerning new initiatives, such as MANPRINT.	Section I-B
f. Eliminate Management as a scored area but provide an overview to ensure that major shortfalls can be identified.	Section IV-A
g. Include scored Management aspects in other areas, as appropriate to specific needs of the program.	Section IV-A
h. Increase the spread of scores above a passing grade to enable evaluators to discriminate between acceptable proposals.	Section II-G
i. Avoid scoring below the factor level. Sub-factors and sub-subfactors should be identified by topic only, but should not be weighted.	Section II-G
j. Publish the weighting of areas, elements, and factors as an excellent way to communicate the importance of the government's new initiatives.	Section II-G
k. Reveal unsuccessful offeror's scores during the loser's debrief, but no comparison to the other offerors should be made.	Section III-C
l. Avoid scoring above the lowest level in the evaluation until the BAFO is received.	Section II-G
m. Ensure that the scoring system reflects that the System Specification has precedence over program plans.	Section IV-F
n. Indicate which plans will be scored during the evaluation.	Section I-D
o. Describe detailed procedures for evaluating contractual plans, when included as part of the Evaluation Plan.	Section I-D
p. Ensure that the Evaluation Plan and RFP are closely linked documents and that evaluation criteria are consistently described in both.	Section I-D
q. Update the Evaluation Plan with each change to the RFP. Ensure that the Plan and the RFP are developed by the same individuals.	Section I-D
r. Ensure that all SSEB evaluations are based on uniform methodology that is set by the Chairman and explained in the Evaluation Plan.	Section II/Intro

9. Best and Final Offer (BAFO)

a. Provide offeror at least 2 weeks to prepare the BAFO.

Summary

b. Provide model contracts to offerors at least 2 weeks prior to BAFO due date.

Summary

c. Define the period of time that the BAFO must remain valid (such as 90 days).

Section II-F

d. Allow at least 2 weeks between receipt of BAFO and the completion of the evaluation.

Section IV-E

10. Source Selection Advisory Council (SSAC) Meetings

a. Conduct frequent, separate meetings with SSAC members to enhance the flow of information during follow-on formal briefings to the SSAC.

Summary
Section II-H

b. Schedule SSAC meetings during the evaluation roughly a month apart. They are an essential ingredient for a successful evaluation.

Section I/Intro

11. Board Report

a. Keep running logs of lessons learned to be incorporated in reports.

Summary

b. Document all steps taken.

Section III/Intro

c. Disseminate the After-Action Report to offerors as well as to government organizations.

Section III/Intro

Figure 1

T800 NEW INITIATIVES

COMPARISONS WITH PAST PRACTICES			
	PAST PRACTICES	T800	GOVERNMENT BENEFITS
COST	• COST PLUS INCENTIVE FEE DEVELOPMENT	• FIRM FIXED PRICE DEVELOPMENT	• NO CHANGE IN DEVELOPMENT COST OR GUARANTEES
	• PRODUCTION COST GOAL	• PRODUCTION GUARANTEE	• CEILING PRICE PROTECTION
	• SUPPORT COST GOAL	• SUPPORT GUARANTEE	• GOVT PROTECTION/SHIFTS RISK
	• GOV ^T FACILITIZES	• CONTRACTOR FACILITIZES	• SHIFTS RESPONSIBILITY/RISK
COMPETITION	• 2ND PRODUCTION SOURCE NOT REQ'D	• 2ND PRODUCTION SOURCE REQUIRED	• BEST CONTRACTOR PERFORMANCE
	• ALTERNATIVE SOURCES FOR SPARES NOT REQ'D	• ALTERNATIVE SOURCES FOR SPARES REQ'D	• REDUCED ACQUISITION COST
	• SMALL BUSINESS PLAN	• SMALL BUSINESS PARTICIPATION REQ'D	• EXPANDED INDUSTRIAL BASE
			• BEST CONTRACTOR PERFORMANCE
PRODUCT PERFORMANCE	• DETAILED GOVT SPEC	• GOVT RQMT/CONTR SPEC	• REDUCED ACQUISITION COST
	• PERF/RELIABILITY GOALS DEMO AFTER DEV'T	• PERF/RELIABILITY RQMT DEMO IN DEVELOPMENT	• EXPANDED INDUSTRIAL BASE
	• FRAGMENTED LOGISTICS SUPPORT	• EARLY CONTRACTOR COMMITMENT	• EXPANDED INDUSTRIAL BASE
	• ENGLISH MEASURE	• METRIC MEASURE	• DESIGN FLEXIBILITY/TRADE-OFFS
			• EARLY VALIDATION PRIOR TO FULL PRODUCTION
			• MANPOWER PERSONNEL INTEGR/LOGISTICS PLANS IN PLACE
			• IMPLEMENTS OOD POLICY/ENHANCES FOREIGN USE

Figure 2

T800 ACQUISITION SCHEDULE/MILESTONES

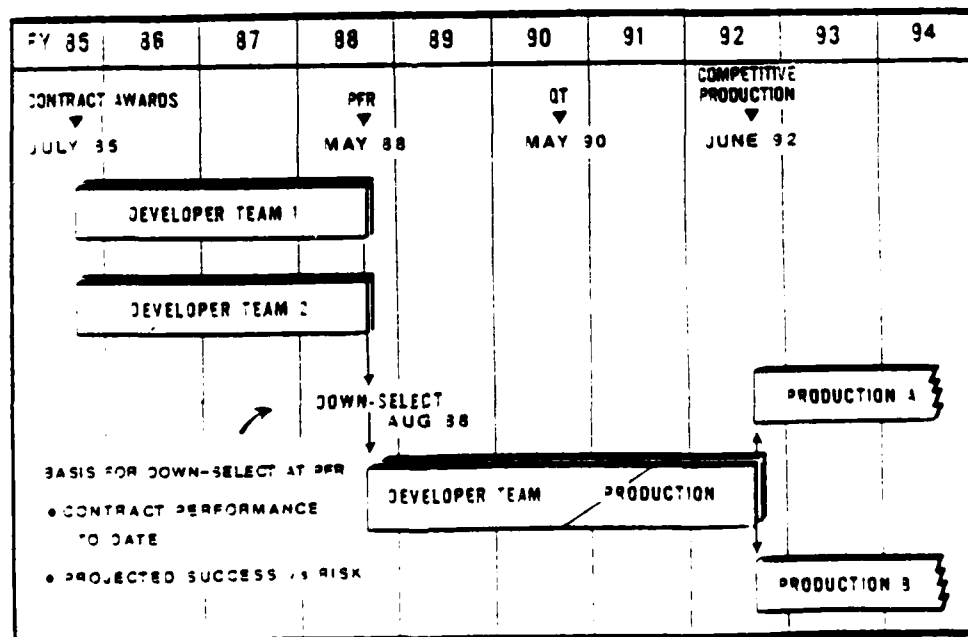


Figure 3

T800-XX-800 ENGINE SOURCE SELECTION EVALUATION WEIGHTING

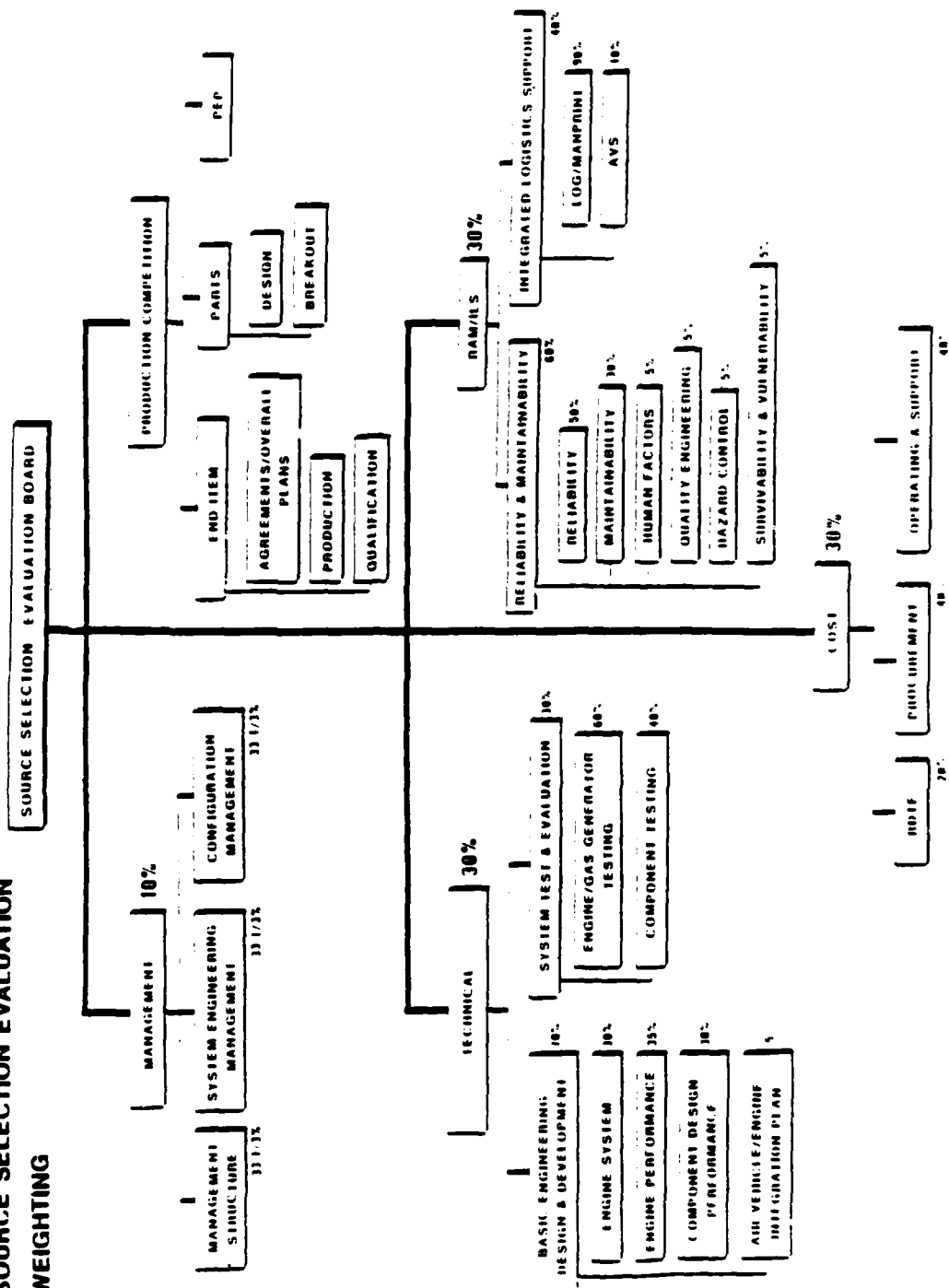
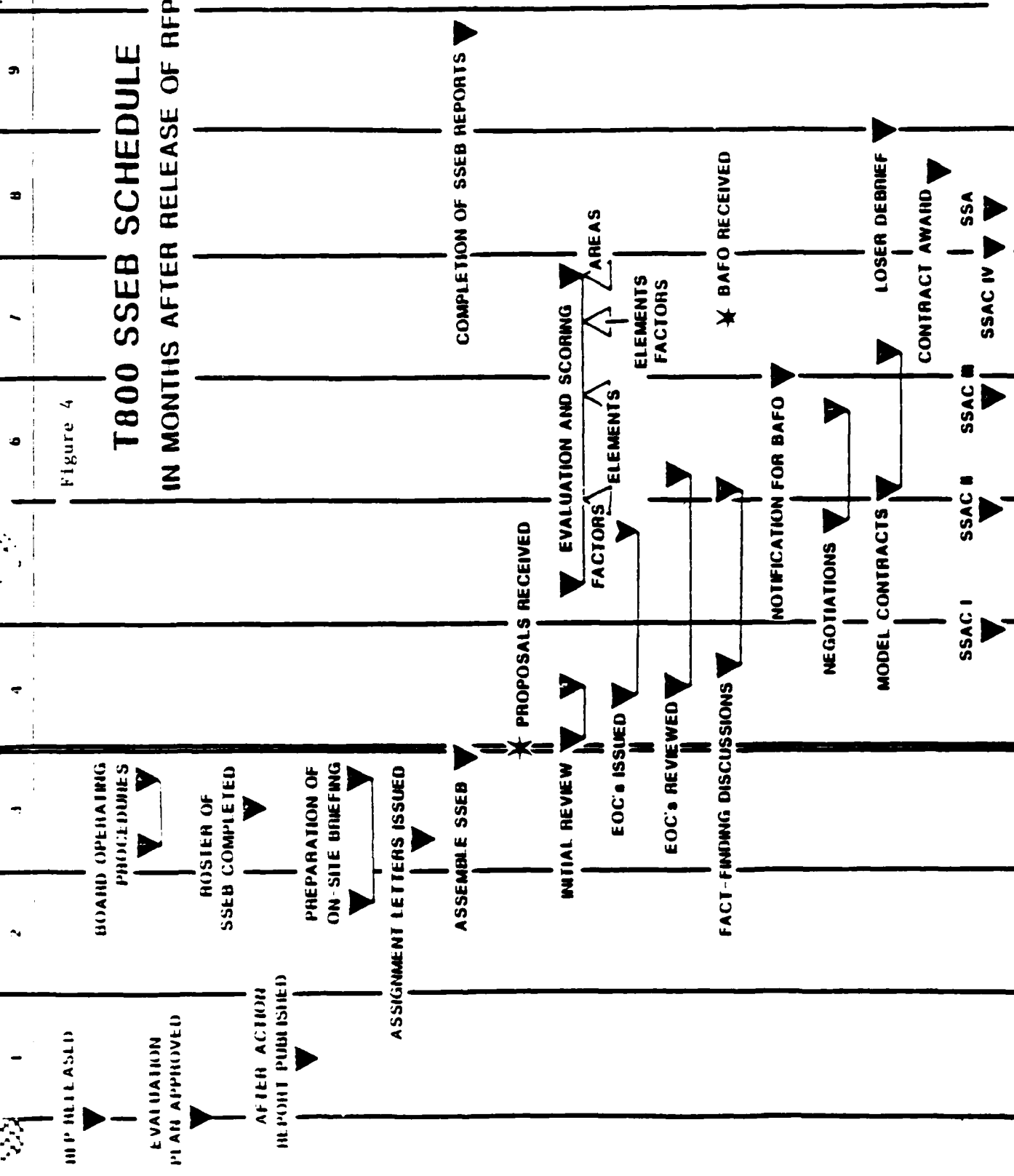


Figure 4
T800 SSEB SCHEDULE
IN MONTHS AFTER RELEASE OF RFP



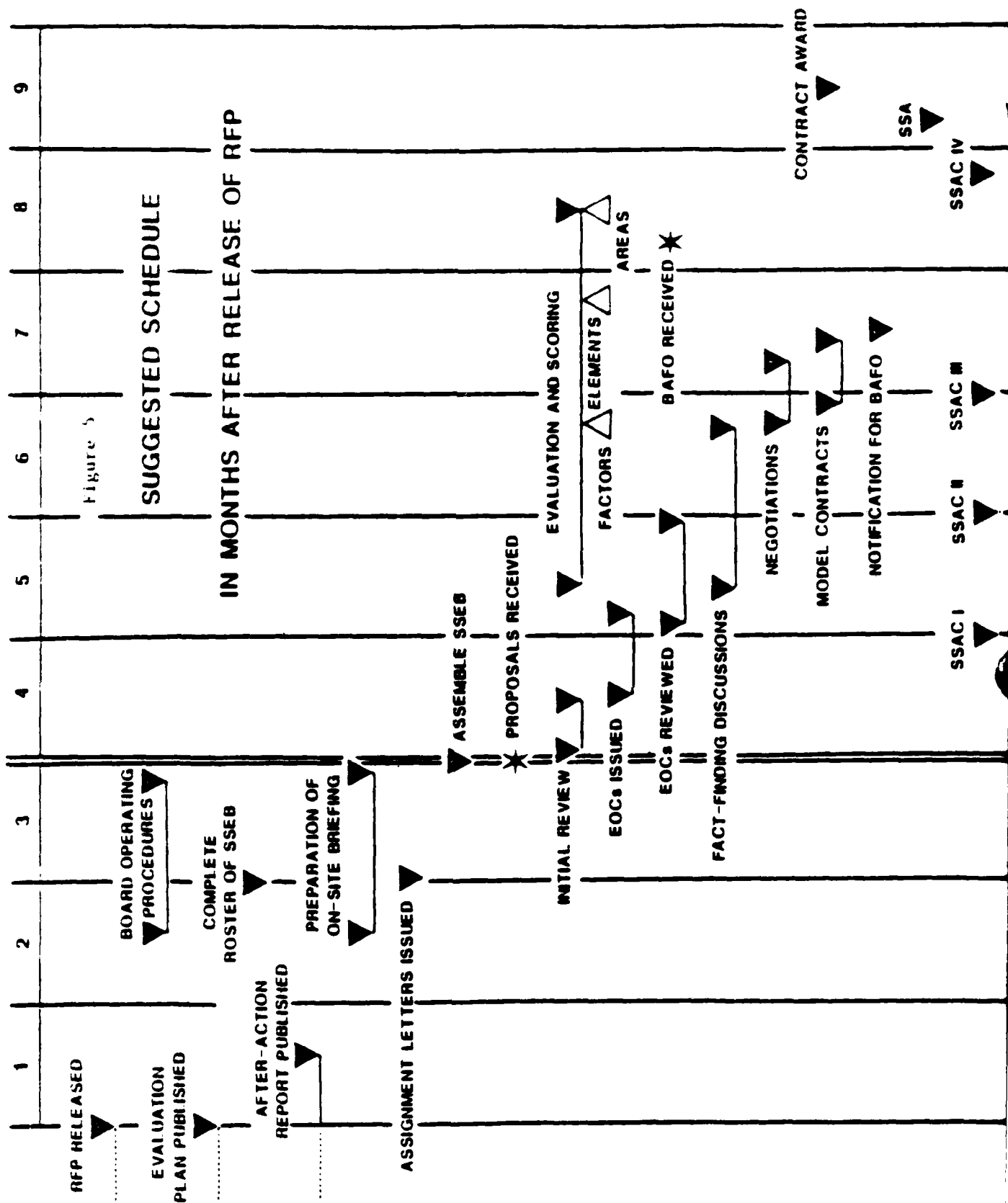


Figure 6

T800 AREA ORGANIZATION - MANAGEMENT

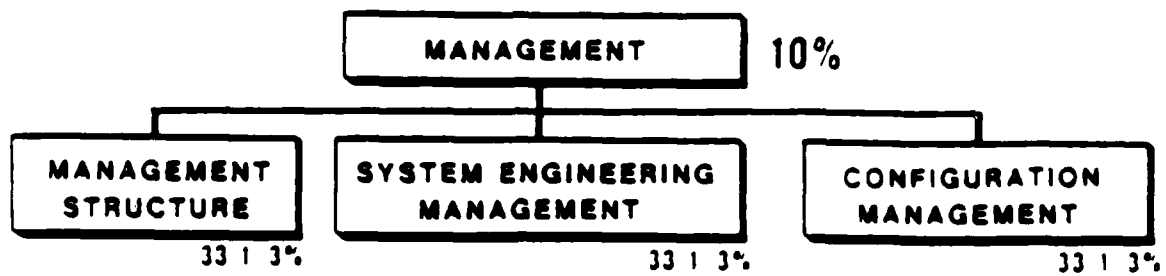


Figure 7

730C AREA ORGANIZATION - PRODUCTION COMPETITION

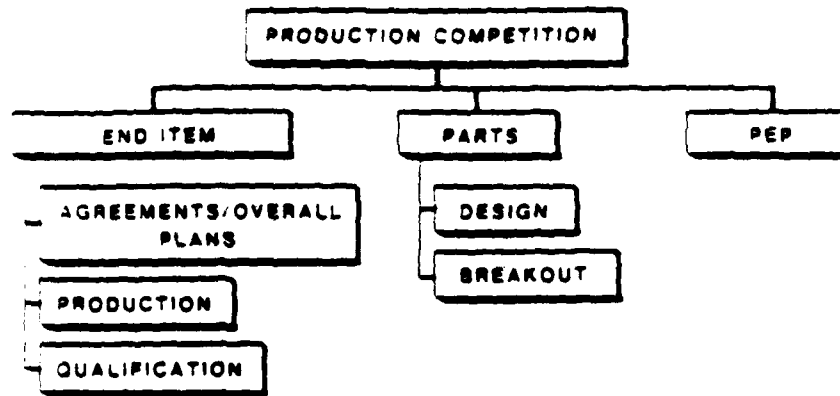


Figure 8

NEW ORGANIZATION - PRODUCTION COMPETITION

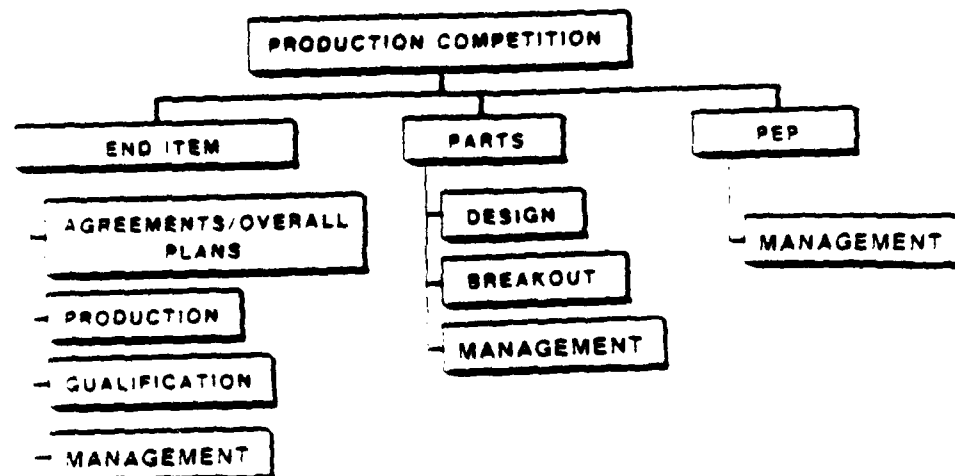


Figure 9

T300 AREA ORGANIZATION - TECHNICAL

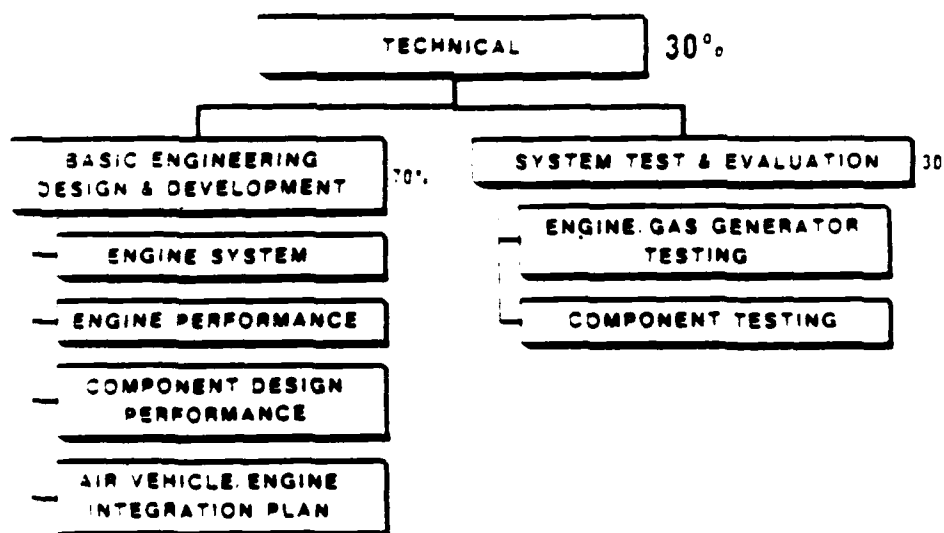


Figure 10

NEW ORGANIZATION - TECHNICAL

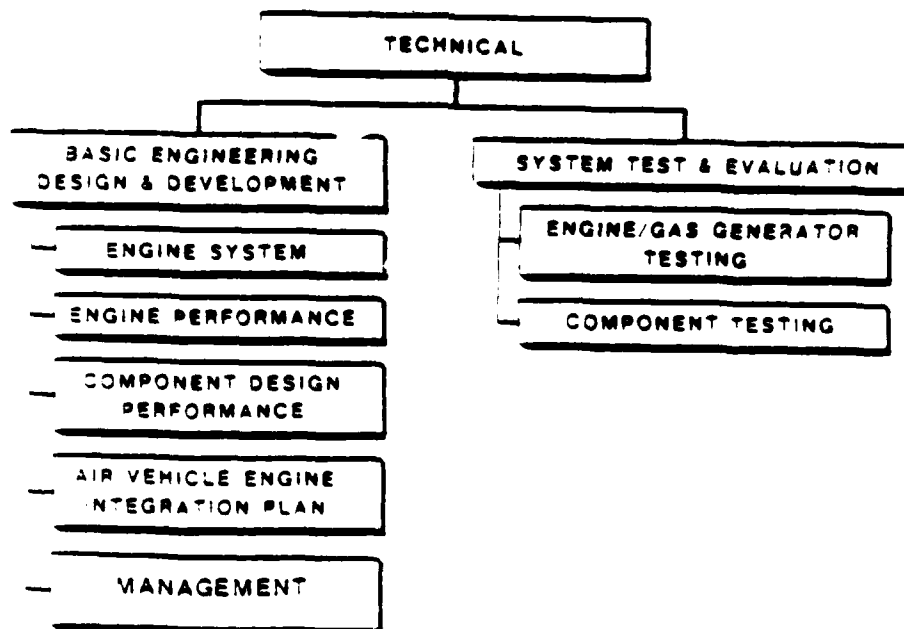


Figure 11

T300 AREA ORGANIZATION - RAM/ILS

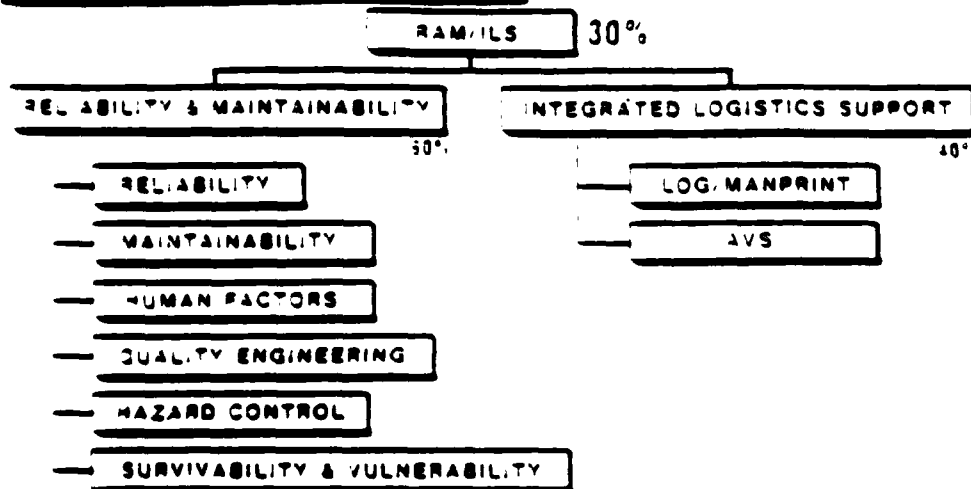


Figure 12

NEW ORGANIZATION - RAM/ILS

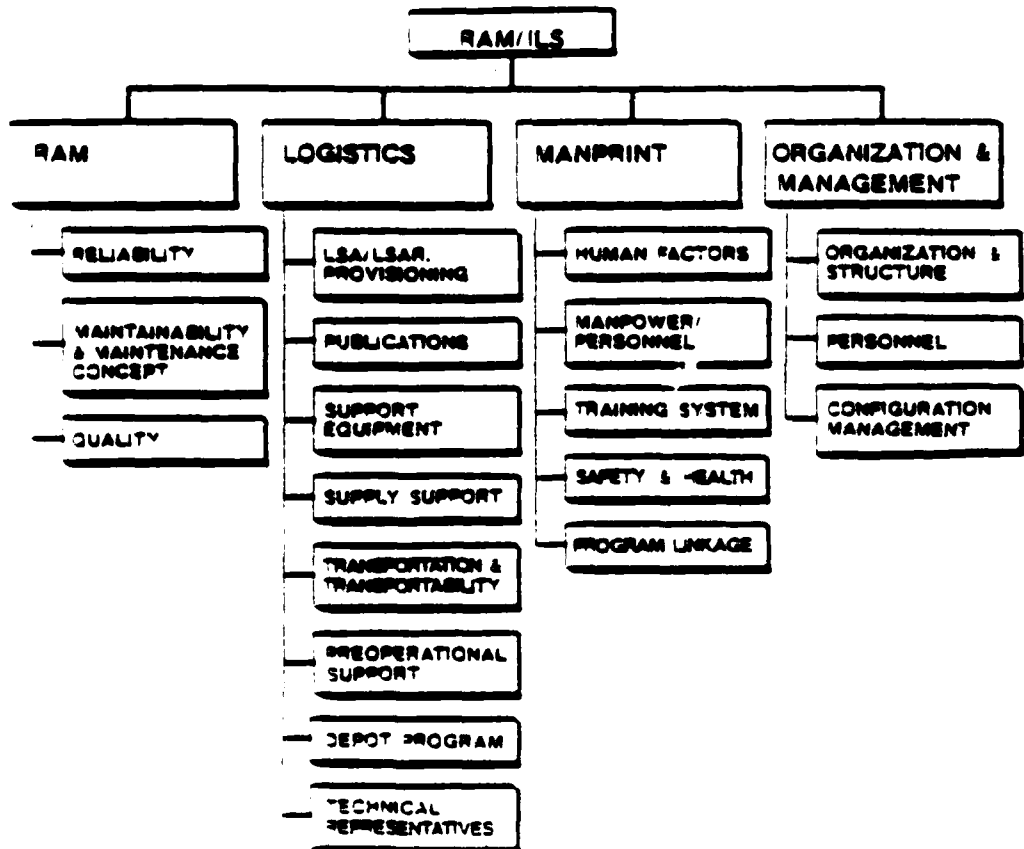
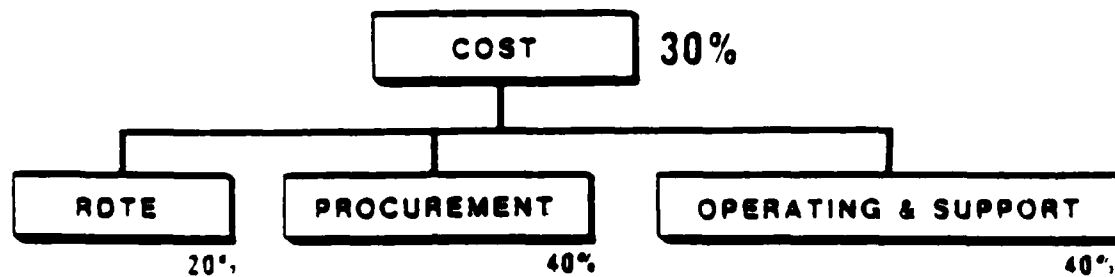


Figure 13

T800 AREA ORGANIZATION - COST



M S E
EVALUATION BOARD



LESSONS LEARNED

INTRODUCTION

The purpose of this report is to chronicle the lessons learned during the MSE Source Selection. It is intended to provide help to those who will follow the MSE NDI acquisition strategy in the future. It is not intended to be critical of any organization or person who participated in the MSE evaluation, hindsight is always perfect.

The MSE source selection began with the receipt of proposals on 1 OCT 1984 and ended in AUG 1985 with the final briefing to the Senior Advisory Council (SAC). During this period thousands of pages of proposals were evaluated, three demonstrations conducted overseas, hundreds of hours spent in negotiations, numerous briefings given to all levels of the Army, six model contracts prepared, and a final report written. It is an effort that all who participated in can be justly proud of.

This report will not dwell on the administrative procedures required to run a source selection evaluation, instead it will concentrate on the unique aspects of the MSE acquisition strategy. This report is intended to be a ready reference to help others in conducting an NDI source selection.

This report is structured in chronological order beginning with the generation of the requirement and ending with the source selection.

MSE RFP AND EVALUATION HISTORY

The initial MSE RFP prepared in early 1983 was for a division mobile subscriber system which would augment the planned TRI-TAC C3 automatic wire subscriber system. Based on the recommendations of the Battlefield Communications Review (BCR) held in the Fall of 1983, the Army redirected the program to provide a secure automatic mobile subscriber system replacing the current and planned C3 systems throughout the Corps area. The Under Secretary of the Army approved the program and directed that the Army procure an available system on a nondevelopmental basis. The RFP required that the offerors propose only total systems (hardware and software) that had been designed, developed, tested and whose principal components were currently in production. The offer was to include a system performance specification describing the performance characteristics of the proposed system which would satisfy the general requirements presented in the RFP. The usual MIL-Standard requirements were included in the RFP as "desired features". It was recognized that the NDI approach would provide a system that did not meet all the desired features. However, the Army was prepared to accept less than a "full MIL System" to gain the cost and schedule advantages of an NDI System.

The RFP also required a demonstration of the major system characteristics using production equipment in its final offered configuration.

The Army did not impose any of the logistics and management controls nor-

mally used on CE programs. Rather, the contractors were asked to propose a system/equipment acceptance program, contractor training (operator and maintenance), contractor materiel fielding and a proposed configuration management plan. Several other requirements were added to insure that the successful contractor continued to fulfill his contractual obligations during the life of the program. These included: five Firm Fixed Price (FFP) production options, FFP spares for the life of the program, performance warranties, no progress payments, and others.

In addition, the offeror had to include several mandatory priced options which would be delivered with the original fielding and/or all systems would be retrofitted at some appropriate time (all FFP). These included the use of Army standard support equipment (vehicles, power units, trailers, shelters, etc.), provide interfaces to Army standard and NATO CE equipment used in the EAC, and provide high altitude EMP protection.

There were three separate contracts involved in this program: Basic, Post Deployment Software Support (PDSS), and the Requirements contract. The basic contract was to be a firm, fixed price procurement vehicle through which the Army would purchase and field MSE prime equipment, initial spares, ground support equipment, technical data and warranty, plus provide training. The PDSS contract is a fixed price level of effort vehicle to provide all necessary software support throughout the life of the equipment. The Integrated Logistics Support requirements contract is a "fixed price" contract to provide all necessary maintenance and logistics support for the life of the equipment.

The procurement mechanism is a firm, fixed price contract by which the Army plans to purchase a total of 5 corps and 26 divisions. Because of budget fluctuations, the offerors priced each equipment item over three ranges of quantities. The Army requirements were placed at the lower end of range B with ranges A and C being 50% less and 50% greater respectively.

The RFP was released on 2 July 1984. Industry was briefed prior to and subsequent to RFP release. The purpose of these briefings was to clearly define the unusual nature of this RFP. Several amendments resulted prior to receipt of proposals.

On 12 September 1984, the MSE Source Selection/Evaluation was upgraded to reflect the importance, complexity and financial scope of this major acquisition. An Executive Committee (EC) was established, as part of the Evaluation Board, made up of the EB Chairman, Deputy Chairman, Operations Officer, Deputy for Systems, Chairman of the Standard Evaluation Board, Project Manager Representative, Legal Counsel, Contracting Officer, and the Panel Chiefs. The EC reports to a newly established Senior Advisory Council (SAC - chaired by the CG, Army Materiel Command) which replaced the former Source Selection Advisory Council and the Secretary of the Army was named as the Source Selection Authority. The Source Selection Evaluation Board (SSEB) was renamed the Evaluation Board (EB) with members and duties essentially the same as defined in the original Source Selection Plan.

On 28 September 1984 the Army General Counsel provided clarification of the acquisition strategy to both contractors. This clarification stated the Army's desire to apply commercial practices to the procurement of NDI systems. Further, the clarification allowed any proposal that met the RFP requirements to be accepted and authorized submission of budgetary cost estimates vice cost proposals. Accordingly, the Army defined hardware configurations for demonstration through negotiations rather than formalized RFP amendments and reproposal. Each offeror was advised that since the proposals could be different, that relative value judgments of the systems would be subjective. Finally, the Federal Acquisition Regulations (those not based on statute) would be waived. Proposals were received from Rockwell/Collins and GTE on 1 October 1984.

The Rockwell proposal also included an alternate proposal with ITT as a major subcontractor. It should be noted that proposals ranged from 40,000 to 60,000 single spaced pages. Three semi-trucks were required to transport all documentation. The initial evaluation quickly commenced and was completed in December 1984.

Subsequently, based on the previous guidance from the General Counsel's Office the acquisition strategy was changed to require the bidders to propose a "best operational system". Potential bidders were informed that variations to the RFP would be evaluated and incorporated if determined to be more advantageous to the Army. In defining the "best operational system" for each offeror, the Government selected a system from alternatives proposed by each offeror

within their written proposals or during the course of negotiations. It was continually emphasized that the final system configuration was the offeror's responsibility and that the directed system was selected by the Army without regard to price.

To facilitate the evaluation process, a two phase source selection procedure was implemented. The Evaluation Board (EB) completed the initial evaluation following the formal source selection procedures and documented its findings in an initial evaluation report. Significant issues were surfaced to the EC. The EC performed an early and independent review and identified major deficiencies, weaknesses, and high risk areas. Based on this review and the results of contractor demonstrations in the UK (Dec 84 and Apr 85) and France (Mar 85) the initial "best operational" configurations were negotiated with each contractor.

Following extensive negotiations with each contractor and SAC approval, revised proposals describing a mutually agreed to "best operational system" were requested. Proposals were received and evaluated by the EB. A series of negotiations followed which clarified questionable areas. The system was then frozen and final validation of the Statement of Work and specifications were completed. Model contracts were prepared by the EB and on 23 July these were forwarded to each Contractor with a request for a "Best and Final Offer" (BAFO). The BAFO was received on 2 August and immediately evaluated. A review of the responses necessitated reopening negotiations with both offerors for clarification. Clarifications to the BAFO were received on 12 August. The SAC and the Under Secretary were briefed 18-20 August and 21 August respectively.

To summarize, the MSE evaluation employed an innovative procurement strategy that was unique in acquisition procedures and required the EB to accomplish the following major tasks not normally performed by evaluation boards.

a. The EB's initial definition of a "Best Operational System" incorporating specific equipments and capabilities from each offeror's "menu" provided flexibility, but placed a significant burden on the EB to fully understand the various configurations and attempt to assess the impact various changes would have on the system performance. Although each offeror was informed that their Best and Final Offer was entirely their own proposal, it was generally recognized that the Governments "Best Operational System" would guide the contractor in his final configuration.

b. Pursuant to the initial "Best Operational System," direct negotiations by Panel Chiefs with each contractor resulted in a mutually acceptable system that was generally equal in terms of capability, but not necessarily equal in numbers of equipments. It must be emphasized that this system was negotiated without the benefit of price data, however, negotiators were sensitive to possible allegations of "gold plating."

c. The preparation of a Model Contract prior to BAFO was a new procedure. Normally the request for BAFO is done by letter by the procurement activity and is a routine action. In this instance the EC had to prepare the Model Contract incorporating the numerous negotiated changes, deliverables, non standard clauses and special definitions. It was a major task to insure all contrac-

tual language resulting from over two months of intensive and frequently concurrent negotiations was properly reflected in the various contracts. The magnitude of the effort can be appreciated when one considers the fact that each offeror's Model Contract represented a stack of single spaced documents over 2 1/2 feet high and each page had to be reviewed for accuracy by various groups.

d. Immediately after the SAC briefing and resultant recommendation, the Chairman, Evaluation Board was directed to personally brief the key DA and OSD decision makers. This was an unusual move but was driven by time constraints and the qualifications of the Chairman. These numerous briefings were presented on a highly accelerated schedule with virtually no time for graphics preparation and rehearsal. In fact briefing material was prepared on the "fly", a high risk endeavor considering the level of briefing (Secretary of Army, Chief of Staff, Deputy Secretary of Defense).

LESSONS LEARNED

1. REQUIREMENT

A. In order to successfully pursue an NDI acquisition strategy a non-system specific requirement must be generated. Most requirements documents generated today are too system specific and too restrictive in system performance requirements, thereby eliminating potential bidders. The requirement must be stated in terms of what the system is to do, not what the system is. The MSE Operational Capability Document (MSE OCD) defined five functional areas: area coverage, fixed subscriber access, mobile subscriber access, terminals and system control. In addition to these five functional areas there were a number of required mandatory priced options. All bidders were required to bid these priced options. The last section of the MSE OCD contained numerous desired features. Although these desired features were not an absolute requirement the more of these incorporated into the offered system the higher the evaluation rating. The MSE OCD was very generic in that it defined a capability but left the selection of the equipment to provide that capability to the offerors. This document became the cornerstone of the MSE acquisition strategy. The inability to define the minimum required capability can be a "show stopper".

B. Once a capability has been defined a market survey must be conducted to insure that there are items existing that can satisfy the minimum requirements. This market survey can be formal or it may be obvious that there are systems available that will meet the requirement with little or no modification. This is an essential step since it is easy to become overly critical of all existing

systems and eliminate all of them. In order to use existing systems, and avoid the dollars and lead time associated with developing a new system, the Army must be willing to compromise on non-essential requirements. The Army must adjust doctrine, if necessary, to accommodate the existing system in lieu of a long development program aimed at acquiring the perfect system. The user must be able to live with an existing system if that is the only system bid. In the case of MSE the two existing systems were a British system and a French system.

2. SOLICITATION

A. The request for proposal must be generic to allow maximum competition. Although this may seem like a simple concept it is hard to implement within the government since all parties involved are used to preparing standard procurement data packages with firm MIL-STD requirements. In order to implement an MSE NDI type acquisition the request for proposals must be tailored to allow offerors to describe their system and have the flexibility to propose the best way to support and use the system. This means that the request for proposal will undergo several revisions to insure that a generic package is released to the offerors. There is a tendency to underestimate the time required for this effort. Adequate time should be allowed to prepare the request for proposal and senior level involvement is a must to settle the conflicts that will inevitably evolve.

During the preparation of the request for proposal for the MSE the CG of CECOM, along with his principal directors, personally reviewed the draft request for proposal to insure that the final product was adequate for the job intended. Although this review and revision adds time to the process it is essential.

B. The panel chiefs and the principal evaluators must be involved in the preparation of the request for proposal. Although this step requires the Source Selection Evaluation Board to remain in session for an extended period of time it is essential that these individuals understand and become familiar with the entire solicitation package. The knowledge gained will insure that evaluators are used in an effective manner and the panel chief will be in a position to make certain that the proposals are fairly and completely evaluated. This up-front effort by the panel chiefs will pay high dividends at a later date. Although the panel chiefs were upgraded prior to receipt of proposals the original panel chiefs were retained as deputies to the new panel chiefs and this knowledge was preserved.

C. Common ground rules must be established prior to the release of the solicitation in such areas as economic price adjustment, currency fluctuation, etc. Establishing these ground rules prior to the release of the solicitation is essential to making certain that all offeror's proposals are evaluated fairly and that offerors are not arbitrarily eliminated. Care must be taken in establishing these ground rules to allow offerors to make business decisions that favor his bid. Failure to establish the ground rules up-front will increase the complexity of the evaluation and could result in an "apples vs oranges" comparison especially in the cost arena.

D. Offerors should be allowed the flexibility to adjust the quantities of equipment to be procured per year. Although the total requirement has been

established the offerors should be allowed to bid the types and quantities to be procured in a given year. This gives the offerors the flexibility to optimize their production rates and still meet the needs of the Army. The ability to adjust quantities is also important in the light of funding requirements. Small adjustments in procurement quantities may be necessary to meet the procurement appropriations available.

3. SOURCE SELECTION

A. The need for administrative support cannot be overemphasized. It must be remembered that a Source Selection Evaluation Board is a newly created separate organization that requires the same, if not more, administrative support as any other organization. The need for clerical, audio/visual, reproduction, janitorial, etc., support can be critical. The MSE evaluation was conducted in inadequate facilities with inadequate support and survived only through the dedicated effort of many people. It is unreasonable to expect 100+ people, many of them on temporary duty, to work 7 days a week in marginal facilities. Adequate support must include word processing equipment, graphics support, good furniture, experienced secretaries, reproduction equipment and clean facilities.

B. Receipt of proposals is the start point for negotiations. This goes against the traditional way of doing business of requiring offerors to propose against stringent MIL-Standard requirement then evaluating the proposals against that requirement. Offerors must be allowed to bid what they feel is their best value system and the Army must evaluate that proposal based on the system's ability to meet the operational requirement. Deficiencies noted and all terms and conditions must then be negotiated. This approach allows both the Army and

the offerors to arrive at an agreed upon "best value" system. It must always be remembered that it is the offeror's proposal and he has the final say in what he is bidding. All negotiations must be well documented and there must be feedback between panels. The minutes of all negotiations must be published quickly as they become the official record of the negotiations and are subject to audit by both sides. One of the dangers in having concurrent negotiations is that one group might be working at cross purposes to another. A clear negotiating position must be established and understood by all. One person, in the case of MSE, the contracting officer, must be in charge of all negotiations. All panel chiefs need to be instructed in how to negotiate since they are key to the negotiation process in their area of expertise. It should be understood that under this acquisition strategy everything is open to negotiation, to include all terms and conditions of the contract. Open dialogue between all government personnel is required to reach closure in a reasonable time. The contracting officer must be responsible for negotiating package deals when impasses are reached.

C. The need for adequate storage facilities cannot be overemphasized. The solicitation required offerors to submit all existing documentation, such as test data, in support of their proposals. The bids arrived in tractor trailers and two weeks were required to catalog and inventory the proposals. Some of the data was valuable but much of it was superfluous such as copies of Army standard technical manuals. In retrospect it would have been wise to instruct the offerors to list the supporting documentation available and request only that data that was needed by the evaluation board.

D. The offerors must be allowed to bid what they feel is their best value system. There is a distinct difference between the best operational system and the best value system. The Government should strive for the best operational system and the offerors must be allowed to trade off operational requirements and cost. The best and final offer will be evaluated on how well it meets the operational requirements and cost. This is extremely difficult in the cost area, and was not put to the test during the MSE evaluation due to the large cost differences between the two offerors proposed price.

E. The creation of model contracts to reflect what was negotiated is a major task. During a traditional evaluation the request for proposal contains all the requirements and is the base line for all negotiation and evaluation. During the evaluation this request for proposal is updated to reflect all agreed upon changes and at the conclusion of negotiations this request for proposal becomes the contractual document. In the MSE acquisition a model contract had to be built from scratch for each offeror since the equipment, and in some cases the terms and conditions, were different. This became a herculean task since six contracts were required, three for each offeror, and the basic contract alone exceeded five thousand pages. The administrative burden of preparing these model contracts can easily be overlooked during this evaluation and can become a delaying factor since model contracts are required before the best and final offers can be requested.

The number of contracts should be kept to a minimum in order to limit the

workload required while still maintaining the required separation between contractual instruments. The MSE program required three contracts: A basic contract for equipment and documentation, a requirements contract for sustainment efforts and replenishment spares, and a post deployment software support contract.

The structure of all contracts should be carefully examined to insure consistency and elimination of contradictory clauses. Avoid price ranges since they require the contractor to commit to an infinite number of equipment mixes with an infinite number of delivery schedules. The MSE contract contains a delivery schedule only for the low range of B.

F. Many of the plans and other data required update as a result of negotiation prior to inclusion in the model contract. Unfortunately these plans were available only on word processing equipment at each of the offeror's facilities. The Government should direct bidders to prepare the major portion of their proposals on standard word processing equipment and submit the source media with their proposal. This would eliminate the cut and pasting associated with updating plans.

G. The need for cost data depends on whether adequate competition does or does not exist. During the MSE evaluation offerors were required to submit cost proposals along with their original proposals. Because of the limited time allowed to submit proposals the cost proposals were budgetary in nature. Hundreds of manhours were expended in evaluating and auditing these cost proposals before a decision was made that adequate competition existed and cost data was

not required. This issue should be addressed up front and a decision made prior to the first submission of a cost proposal.

H. Bidders must be allowed to modify their existing equipment to meet the requirement to prevent arbitrary elimination of candidate systems. Modification of existing equipment should be minor and/or all development completed prior to contract award except for the mandatory priced options. All modification to the baseline system must be evaluated and demonstrated and the risk assessed. This is one of the most difficult tasks required during the evaluation as the modifications cannot be judged independently of each other but must be related to the system performance as a whole.

I. Offerors should be required to demonstrate their equipment prior to the best and final offer. Three overseas demonstrations were required, necessitating considerable advanced planning, support arrangements and in some cases government loaned equipment. The purpose of the demonstrations was to provide confidence that the offered system would perform as outlined in the proposal. Originally the RFP specified that the demonstrated system must consist of only in production equipment and provide for a certain number of nodes, static subscriber instruments and mobile subscribers. This was subsequently modified to allow the contractor to demonstrate to the maximum extent possible proposed or existing equipment.

A small advance party consisting of legal, contracting, and operational suitability people were necessary to arrange lodging, transportation, and meals.

It was decided that executing a contract to cover the majority of the basic costs incurred by each evaluator while TDY was much easier than an individual payment method. The contracting officer must be prepared to execute a contract on the spot with civilian hotels and transportation firms.

Planning the daily demonstration events was much more difficult and time consuming than originally anticipated. Because of the large number of evaluators, limited time, and the necessity to evaluate in detail specific areas of interest a complex, time phased schedule was necessary. Teams were established based upon area of evaluation interest with OTEA evaluators integrated into these teams. Special teams were constituted consisting of executive level individuals, GAO and Army Audit Agency representatives, and the video tape crew. A time phased daily schedule was prepared with flexibility provided for those unplanned events deemed necessary by the government. In summary, the EB's advance party essentially designed the demonstration and in one instance dealt directly with allied officers (UK) in preparing the detailed demonstration schedule.

The GTE demonstration incorporated large amounts of Government owned equipment that had to be shipped from many locations, modified where necessary by GTE, and incorporated into a working system. Some of this equipment had not been fielded and extensive arrangements to identify, coordinate a release from DA, and ship the equipment in a compressed time schedule was necessary. Over 100 U.S. soldiers from the 7th Signal Brigade, Germany, were identified to set up and operate the U.S. equipment. Support arrangements had to be coordinated

with the French Army, satellite space segment obtained and USAREUR HQ fully briefed on the movement of key automatic switches from Germany to France. Reimbursable costs for the U.S. equipment and soldier pay had to be negotiated with GTE.

Theater clearance and travel orders became a major issue and required considerable advance planning and continual emphasis to get the system to respond. In order to save a few dollars per individual, the EB was directed to use, if available, transportation by MAC carrier. MAC space was booked to Frankfurt for the demonstration in France. The flight was cancelled at the last minute, and it was impossible to book commercial transportation for the large contingent as backup. The flight went as scheduled the next day but some 500 French soldiers, 100 GTE representatives and 100 U.S. soldiers were delayed a day. The small cost savings is not a substitute for close adherence to a tight schedule.

J. Hand-in-hand with the requirement for the demonstration is the fact that operational suitability is the overriding criteria. It must be made perfectly clear that the system must meet the operational requirement of the Army. The operational suitability of the proposed systems should be evaluated by the actual users. The MSE operational suitability panel chief during the evaluation was on 0-6 Signal Corps Brigade Commander supported by user personnel primarily from the U.S. Army Signal Center, Forces Command, and various TRADOC posts. It is imperative that the user, represented by the TRADOC community, be the final judge of operational suitability.

K. Interface between the evaluation panels is critical. The MSE Evaluation Board consisted of five panels; operational suitability, cost, technical, logistics, and management. All of these panels make decisions which are critical to the other panels, especially during the negotiation phase. Open lines of communications were established and maintained by daily staff meeting chaired by the EB Chairman and attended by the panel chiefs, legal advisor, PM advisor, and contracting officer. One of the factors adversely affecting the interface between panels was the physical separation of the panels caused by the fact that the Evaluation Board was housed in four separate buildings. The entire Board should be physically located in one building when possible. Meetings are very important but must be structured and lengthy dialog between small groups conducted off-line to avoid wasting time.

L. The evaluation is subjective since the criterium is the system that will best meet the Army's requirement. The definition of "best" is hard to define in quantifiable terms. All offerors must understand this from the outset. This was communicated to all potential offerors in the pre-bidder conference and was reiterated to the offerors throughout the negotiations.

M. Panel chiefs should pre-brief their counterparts on the SAC prior to each SAC meeting. This saves time during the actual SAC meeting and also allows the SAC members to think about the various alternatives and decisions to be made. The drawback is that each panel chief must travel to see the various SAC members prior to each meeting. A realistic schedule must include time for these

essential pre-briefs.

4. GENERAL

A. The MSE NDI acquisition strategy required the total commitment of the Army at all levels. An acquisition of this scope can never take place without the total commitment from all levels. There are many examples of this commitment: The Evaluation Board was chaired by a Major General assigned to TRADOC; a Brigadier General was assigned as the Deputy Chairman; two Brigade Commanders were assigned as the Deputy for Operations and the Operational Suitability Panel Chairman; a COL was assigned as the Deputy for Systems Engineering; a Senior Executive Service (SES) grade civilian was assigned as the Chief of the technical panel; the Senior Advisory Council was chaired by the CG of the Army Material Command; nine General Officers and five senior executive service members served on the Senior Advisory Council; the Under Secretary of the Army played an active role in the development and implementation of the acquisition strategy; the Source Selection Authority (SSA) was the Secretary of the Army.

A major factor was the composition of the Senior Advisory Council. The Senior Advisory Council enjoyed representation from all the key Army elements involved in the MSE acquisition. This diverse representation allowed the Senior Advisory Council to represent the total Army in a way that is seldom enjoyed in the acquisition arena.

B. Although it is easy to say that a primary ingredient is the avoidance

of a bureaucratic mind set, it is hard to implement in a bureaucratic environment. We are all captives of our experience and most of the players in the MSE evaluation have spent many years working within the bureaucracy. All decisions should be subject to the "common sense" test as opposed to that's the way we have always done it.

C. The evaluation should include all key agencies and organizations. Numerous outside agencies were allowed to monitor the evaluation effort (including demonstrations) creating an additional burden of briefing and education. The following agencies actively participated (part time) in the EB in primarily an observer status; OTEA, AMSAA, GAO and the AAA. Although these personnel required updates and education their participation was ultimately of significant value in "selling" the evaluation through DA and OSD. Future acquisitions should consider offering similar involvement to these agencies.

D. An Independent Government Cost Estimate (IGCE) must be prepared for each offered system prior to best and final. This IGCE is used to establish price reasonableness and is essential if there are large differences in the cost of the various systems. These IGCE's were essential in explaining the large cost difference between the two offered MSE systems. The preparation of these IGCE's is a time consuming task and must be completed prior to receipt of best and final offers.

5. ROLE OF THE PROJECT MANAGER

The MSE project is a \$4.3 billion effort to provide tactical communication systems at Corps and Division to solve command and control communication deficiencies on the Air Land battlefield. It is an intensive project which is expected to field new equipment to the entire tactical force structure of the Army, both active and reserve components, within eight years. It is a very ambitious project which will demand intensive project management of the highest order if the schedule is to be maintained. It will not be acceptable to solve problems as they occur because that will be too late; negative trends will have to be perceived as they start and corrective measures immediately taken to stop the problem before it actually occurs. This ability to recognize incipient problems must exist in all areas pertinent to the MSE system - production, testing, training, unit reorganizations within the Army, MOS realignments, facilities preparation for resident training and marshalling and fielding, transportation, import and export problems and a myriad of like items involved in any and all worldwide deployments. It is important to note that several of these areas of interest are not within the direct purview or control of the PM or AMC. The MSE system is, in every sense, an Army project that must be addressed and pursued in a timely fashion by numerous elements in the Army beyond the development community. A slip in any of these elements may have deleterious impacts on the smooth progression of MSE to a successful fielding and may result in Government caused delays on the contract with resultant cost penalties.

In the course of the MSE evaluation, it became apparent that numerous decisions were required that impacted the overall project. The Government had asked

industry to propose a system on a turn-key basis which included training, system support to include support structure and all project and project management aspects of producing, testing, delivering, training, fielding and supporting the MSE system for its expected lifetime in the field. Much of what was accomplished within the evaluation will have a lasting impact throughout the life of the MSE system in the Army. The evaluation, with its extensive negotiations, was far more than a simple evaluation of an offer. It did evaluate the offers, but it also went far, through negotiations, in defining the total system of testing, acceptance, support, training, business terms and conditions, and project management aspects of the contractor and, hence, the Army PM. It was, therefore, much more than a pure evaluation.

It is essential to understand that the evaluation proceedings of a proposal submitted in response to a performance specification involving more than the production of hardware, must address a number of sections in the resultant contract or, as in the case of MSE, actually in writing almost the complete contract. The provisions contained in the contract largely define what is to be accomplished, how it is to be accomplished and the checks and balances to be addressed in monitoring and supervising the progress of the acquisition. The contract defines the program to a large degree and the Project Manager, who is responsible for the accomplishment of the program, must have the ability to influence the writing of the contract. The contract must be executable and manageable. While this is obvious, it is not necessarily of great concern to those personnel who are tasked to evaluate the offer. The evaluators task is to ascertain strengths and weaknesses and, through negotiation, increase the former and reduce or eliminate the latter. The actual doing of what is cited in a pro-

posal is not the concern of the evaluator; that belongs to the Project Manager. The definition of the offered product and the mechanisms to provide that product to the Government are evaluated and, as appropriate, negotiated by the evaluator. How well the product performs and how well the mechanisms of production and contractor management actually work is the responsibility of the Project Manager.

It is critical that the Project Manager be intimately involved in any evaluation. Where, as in the case of MSE acquisition, it is decided to raise the source selection to high level/high grade participation and involvement, care must be exercised to assure that the full range of project/program management considerations are fully provided for in all appointments. Each appointment should be carefully weighed against the task to be accomplished, the objective sought and the expertise required of the appointed personnel. The right man for the right job becomes essential since numerous decisions are needed to achieve the desired results. If such decisions were, indeed, not required, then the need to raise the involvement level would not be apparent either.

An evaluation board that is expected to conduct broad negotiations, both technical and programmatic, must contain a prudent mix of qualified personnel to address each area under consideration. The personnel should include supervisory levels from the Project Manager's office, where one exists, or be assigned to the Project Manager's office where one is to be established. Such assignments encourage the individuals to think and plan beyond the evaluation itself. The


Project Manager must be doing his planning during the evaluation; alternatives may be offered during the course of an evaluation that falls clearly within the purview of the Project Manager and he, or his close subordinates, should have the opportunity to influence the chosen alternative to avoid later problems.

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FOR THE COMMANDER:

OFFICIAL:

WILLIAM S. FLYNN
Brigadier General, USA
Chief of Staff


PAULANDA D. POWELL
Acting Chief
Operations Branch

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